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EMPIRE

Agricultural Works.

ESTABLISHED IN 1859.

MINARD HARDER,

PROPRIETOR,

(SUCCESSOR TO R. & M. HARDER,)

COBLESKILL, N. Y.,

MANUFACTURER OF THE

GRAND GOLD MEDAL



Railway Horse-power,

AND

THRESHER AND CLEANER,

THRESHERS, SEPARATORS, FANNING-MILLS,
CIRCULAR-SAW MACHINES, SEED-SOWERS AND
PLANTERS, &c.

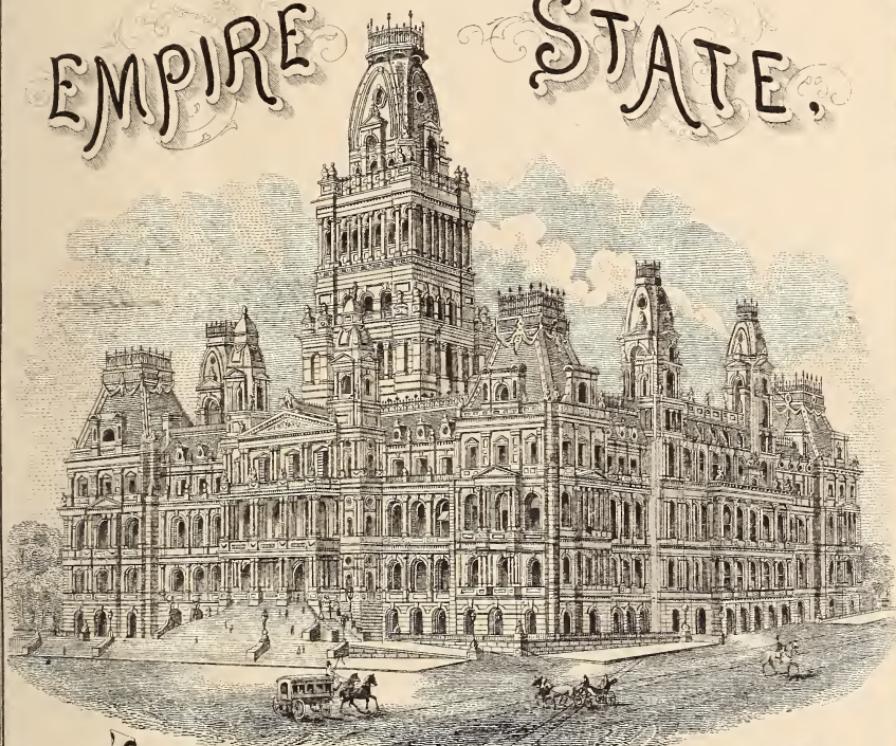
Weed, Parsons and Company, Printers,
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WEED, PARSONS AND COMPANY,
PRINTERS AND STEREOTYPER,
ALBANY, N. Y.

THE NEW CAPITOL
OF THE
EMPIRE STATE,



In Process of Erection
AT
ALBANY, N.Y.

EXCAVATION COMMENCED, DECEMBER 9TH 1867.
FIRST STONE IN FOUNDATION LAID, JULY 7TH 1869.
CORNER STONE LAID, JUNE 24TH 1871.
COVERS AN AREA OF THREE ACRES.

Office of MINARD HARDER,

Cobleskill, N. Y., April 1, 1872.

To the Farmers and Threshermen of the United States, and to all whom it may concern :

Believing the machines built at the Empire Agricultural Works to be at least equal, if not superior, to any of their class before the public, I purchased, in the spring of 1859, one half of said works, without the least idea of ever devoting any considerable portion of my time to the same, being then engaged, as I had been for fourteen years previous, in a successful business, which I had followed from my boyhood days. But after a few months' experience, and while attending the New York State and other Fairs of that year, at which nearly or quite all the leading Railway-machines of this country were exhibited, this State then taking the lead, as it still does, in the manufacture of machines of this class, I became so **thoroughly convinced of the great superiority of our machines** over others, especially the Horse-power, and of the vast importance to farmers and others, as well as to myself, of their more general introduction, that I resolved to abandon my former business and devote my entire time and means to the accomplishment of that object, being satisfied that at no distant day, Horse-powers on the Railway principle, would become *the Power* for threshing and farm use generally, throughout the United States, which prediction is rapidly being verified.

The Machines manufactured at these works, which, at the time above referred to, were almost entirely unknown outside of the county in which the establishment is located, have won, as remarked by an eminent Pro-

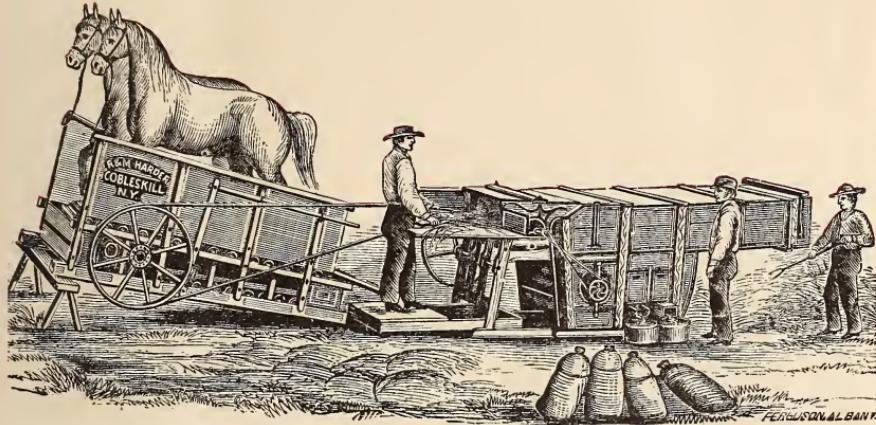
fessor about our Horse-power, and Thresher and Cleaner, while lecturing on Threshing machines at one of the leading Agricultural Colleges of this country, "**a high reputation throughout the United States,**" and, it might be added, **in other countries**, having been introduced into the British Provinces and Europe; in fact **surpassing the older machines** known to the public for many years before ours, until they have gained, with the thousands of farmers and threshermen who are using them, a standing **unequalled by any other of their class**, as we think the evidence given in the following pages, fully proves.

Notwithstanding the great satisfaction our Threshers and Cleaners have given in the past, **important improvements** have been added during the past year, which improvements are more fully described elsewhere, thereby enabling me to furnish in the future, a machine **superior to any thing of the kind ever offered to the public.**

In concluding these introductory remarks, I desire to call the attention of parties designing to purchase, to the fact that it is a common practice for manufacturers and venders of inferior machines, to claim the greatest superiority, but they always do so without giving good and sufficient reason therefor. Assertions of this character, which are easily made, is *one* thing, but **claims fully sustained by descriptive points of real superiority and merit**, such as are set forth in this catalogue, and which, it is believed, will commend themselves to the judgment of all intelligent persons, is quite *another* thing. I have no sympathy with claims unsupported by proof, and trust "a word to the wise" will be sufficient.

MINARD HARDER.

Two-horse Power, Thresher and Cleaner, in Operation.



The attention of Farmers, Threshermen and Dealers in Agricultural Implements is invited to the fact that the Horse-power, and Thresher and Cleaner, represented in the above cut, were awarded the first prize—

Two Grand Gold Medals,

At the Great National Implement Trial at Auburn, N. Y.,

for "great economy of power, working more equably and smoothly, and with less waste of power than any machine they, the Judges, had ever met with ; very slow and easy movement of the horses, fifteen rods less than $1\frac{1}{2}$ miles travel per hour ; better adapted to the use of oxen as well as horses than others which require a more rapid rate of travel ; unusually good arrangements for separating grain from straw, embodying, in their opinion, the greatest advances yet made in the art of separating ; larger sieves than usual, delivering the grain in a very clean and excellent condition ; mechanical construction and execution of the very best kind, deserving high commendation, showing thorough and conscientious workmanship and material in every place ; nothing slighted, of great value, and admirably adapted to the wants of farmers," &c., as shown by the official report of the Judges. From this trial the oldest competitors of this machine withdrew after the commencement of the same, virtually

admitting their inability to compete successfully with it at the most thorough trial that has ever taken place in this country, yet *pretending* a willingness to compete, notwithstanding the records to the contrary.

The Horse-power possesses **important mechanical advantages**, as may be seen by report of the Auburn trial, of which others are destitute, by means of which from 25 to 30 per cent. of power is obtained over ordinary Powers; working in a more perfect and noiseless manner than any other, and producing **more power with less elevation** and slower movement of horses, mules, or oxen, whichever may be used thereon. **It is operated with greater ease to the team than any other**, the rate of travel being only about $1\frac{1}{2}$ to 2 miles per hour when doing a fair business, which is from 250 to 500 bushels of oats per day, or half that quantity of wheat or rye, according to the circumstances and condition of grain.

The Thresher and Cleaner has been **greatly improved** within the past year by substituting a **double-crank shaker-shaft**, extending across the entire front and width of Thresher, for the single-crank shaft heretofore used, thereby **obviating the necessity of changing a single-crank shaft** whenever shifting the shaker-wheel from one side of the machine to the other, and *vice versa*; using **two pitmans instead of one**, and connecting them to the separator and grain-conveyor more securely; **disconnecting the separator and grain-conveyor** underneath it, and running them by means of the double-crank shaft and the two pitmans, in opposite directions, that is, when the separator is moving toward the cylinder the grain-conveyor is going toward the discharge end of the machine, **causing it to run much more steadily and requiring less power to drive it**; **covering the end of separator** nearest cylinder, where the grain and straw strike the same, **with perforated sheet-iron**, rendering it **more durable**; **fastening the forks on the separator in a more substantial and durable manner**; **enlarging most of the pulleys**, except the cylinder-pulley, which has been slightly diminished, **carefully regulating their relative motion** to each other, all of which, except the cylinder-pulley, are driven by the shaker-shaft, instead of the cylinder-shaft, thereby relieving the cylinder from the luggage heretofore imposed upon it, and the enlarged pulleys **rendering the belts less liable to slip**, and the smaller cylinder-pulley **allowing slower movement of team**; **obviating the neces-**

sity of crossing the fan-belt, by running it from the shaker-shaft, instead of from the cylinder-shaft; **a stronger and better formed bell-crank**, giving a more uniform movement to the shoe containing the sieves; **fastening the grain-spout in a more secure and easy way, and making more convenient and strengthening all parts** of the machine that **years of use and experience** have demonstrated susceptible of the same.

This Thresher and Cleaner still remains a model of simplicity, capable of doing a large business—it is believed larger than any other Two-horse or Three-horse Cleaner, being very roomy on the separator and sieves, separating the grain well from the straw, cleaning it in the best possible manner, and fitting it for mill or market quite as well as any fanning-mill; is **admirably adapted to threshing clover**, easily changed from right hand to left, and *vice versa*; runs still and easily, and is not liable to get out of order.

The result of the Auburn trial, together with the fact that this machine has universally taken the *First Premium at State and County Fairs over all competitors* wherever tested, establishes conclusively all that has heretofore been claimed for it, viz.: that in calling this Horse-power, and Thresher and Cleaner, the

Best Railway Threshing-machine in America,

it is not over-estimating this nor under-rating others; and I shall hold myself in readiness to prove by the machines and their operation that such is the fact.

Price of Two-horse Power, Patent Improved Thresher and
Cleaner, 28-inch Cylinder, 36-inch Separator, Oil-can, Belt-
punch, and 3 Wrenches, without main Belt, - - - - - \$410 00

Weight of Horse-power, 1,850 lbs.; Thresher and Cleaner, 1,100 lbs.

DESCRIPTION AND EXPLANATION

Of some of the Points of Advantage possessed by Harder's Railway Horse-power, in the production or saving of power, ease of team, &c., over others.

First.—The friction-rollers or wheels on which the bridge moves, are larger than most or all others, being 6 inches in diameter, which brings the center of the wheels, on which the weight of the team always bears when the Power is elevated, further back of a perpendicular line from the point where the wheels touch the track; in consequence of which, an **additional amount of purchase or leverage is gained** proportionate to the difference of their diameters. Large wheels produce **other gains** by making **fewer revolutions** on their axles or rods in going a given distance, consequently causing **less friction, running easier**, and the rods and wheels **lasting longer**. The gain in large wheels is, therefore, not only plain to be seen as a mechanical principle about which there can be **no mistake**, but it has been **fully demonstrated** by the builder **by trying both small and large wheels**, having at first used 4-inch, then 5, and now 6-inch, and with **each increase in size gaining a proportionate increase of power**.

Second.—It has a reel in the lower end of the bridge, the object of which is to carry the rods and wheels from the upper to the lower track, some 18 inches, giving the wheels that distance of travel in which to stop their rolling motion; so that, when reaching the lower track, having lost their revolving force, their motion is reversed and they pass along smoothly, **without jar, clatter, or loss of power**; while in other Powers, **destitute of a reel** and having a circular track around the lower end, the wheels continue upon said track, in full rolling motion in the same direction, until striking the lower track, when the motion is instantly reversed while under full headway, **causing jar, pounding noise, the wearing and chafing of the wheels and track** at that point, and **consequently a great loss of power**.

Third.—The arrangement of the chain formed by the links, in connection with the reels, is such, that there is a **perfectly even tension of chain at all times**, or, in other words, it is of the same length in all positions. This, together with the manner just described, in which the wheels pass around the end, are the reasons why this Power runs so smoothly and still, and is **entirely free from the clatter and**

noise there is about all others, and which, together with the large wheels, cause it to run with so **much more ease and power than others**. That such is the case, is a fact universally admitted.

Fourth.—It is operated with greater ease to the team, running with **less elevation and slower travel than others, the average walk being less than 1 3-4 miles per hour** when doing a good, fair business, as follows, viz.: :

Entire length of bridge,.....	18 1-12 feet
Number of revolutions of bridge per minute, which is more than the average,.....	8
Number of feet traveled per minute,	144 $\frac{1}{3}$
Multiplied by the number of minutes in an hour,.....	60
Number of feet traveled per hour,	8680
The same divided by the number of feet in a rod, makes 526 rods and 2 feet; being 33 rods and 14 $\frac{1}{2}$ feet less than 1 $\frac{3}{4}$ miles travel per hour.	

Fifth.—Its double gearing, which is changeable from one side of the Power to the other, causes it to operate with greater ease to the team than single-geared Powers, because it **holds a more steady motion**; in other words, the motion of a single-geared machine is much more easily checked, consequently unsteady and worrisome to a team.

Sixth.—The two **main shafts are heavier** than most others, being 1 $\frac{1}{2}$, and 1 $\frac{3}{4}$ inches in diameter, where many others are only 1 $\frac{1}{4}$, and 1 $\frac{1}{2}$ inches; consequently are **seldom bent, while others frequently are**.

Seventh.—The boxes of the main shafts have **metal caps, while many others have wood**.

Eighth.—**The Power is of greater length** than most others, which is **a very important item** being more roomy, and easier for large horses.

Ninth.—The band-wheel is 3 feet and 2 inches in diameter, being smaller than those of other Railway-powers, therefore **less liable to be checked** by unsteady feeding of the machine.

Tenth.—On account of its slight elevation, slow and steady movement of the bridge, and its size, it is **better adapted to oxen than any other**.

Eleventh.—In short, this Power is **built in a more substantial manner**, and is **superior to any other**.

DESCRIPTION AND EXPLANATION

Of Points of Advantage possessed by Harder's Patent Improved Thresher and Cleaner.

First.—The Separator is large and roomy, being 5 feet wide and 9 feet 7 inches long, in the 28-inch cylinder or Two-horse machine. It has a vibrating motion of 4 inches, **two forks upon it to loosen up the straw**, and the end furtherest from the cylinder being hung 4½ inches higher than the other, it **separates the grain thoroughly from the straw**, while at the same time, by the peculiar manner in which it operates, the straw works off freely. **The Sieves are also large**, being 31 inches wide and five in number, **adapted to the different kinds of grain**, with a side shake the same as in a fanning-mill, about one-third slower than the revolutions of the fan, which is just as it should be, enabling it to clean better than those with an alternate backward and forward motion, and **better than a fanning-mill** with smaller sieves. The above are the most important points, so far as the working is concerned, that constitute an A No. 1 Cleaner.

Second.—Underneath the separator is a Grain-conveyer with sufficient slant or inclination to carry the grain to the sieves. This Grain-conveyer and its fastenings are constructed in such a manner that the conveyer can easily be taken out and replaced; and when removed, the Thresher and Cleaner is as well **adapted to threshing clover** as any Thresher without Cleaner. This is an important item in sections where clover seed is raised, and cannot be done, to my knowledge, with any other Thresher and Cleaner.

Third.—The Cylinder, which is overshot and of wood, is heavier than most wooden ones, consequently **retains its motion longer**; or, in other words, its speed **is not so easily checked**. It is covered with heavy sheet-iron, and strongly banded.

Fourth.—The Cylinder-spikes, which are heavy and without thread, are driven in and clinched on the inside, which makes it much easier to replace them when broken, which is done by driving the stub of the broken spike through into the cylinder, which enlarges the hole somewhat, then driving the new spike, which should be made a little thicker, into the same hole, and clinching it with the aid or use of a small bar of iron; thus **avoiding the necessity of placing the new tooth by the side of the old one**, as many are obliged to do when there is a thread cut on them, and the stub cannot be driven out. These stubs, when left in the cylinder, produce what is called a cross-balance, which is always very difficult to remedy.

Fifth.—The Cylinder-shaft, the ends of which are of cast-steel, is made of 1½-inch bar, which is sufficiently large to form a **good shoulder by**

the side of the bearings or boxes, while most others are made of 1½-inch bar, which admits of but very little shoulder, and soon, of too much play endwise.

Sixth.—The Concave, which is suspended on levers, is raised and lowered and held to its place by means of two nuts on a bolt running through each end of it, and is fastened to the thresher top in such a manner that, in raising it, the edge toward the feeder rises somewhat more than the opposite edge, which is **universally acknowledged to be an improvement.** This is not only the **best way of regulating the concave** but it is the **most substantial way of fastening it.**

Seventh.—The Cylinder-shaft has a Spring-pulley, by means of which the **Horse-power can be stopped instantly**, and the cylinder allowed to run on, without throwing off the main belt or straining the shaft. This, however, some other manufacturers have adopted.

Eighth.—There is an inclined elevation of the back part of the feed-table commencing within one foot of the cylinder and rising 2½ inches at the same. By means of this elevation, the straw when striking the cylinder comes more immediately in contact with the spikes of both concave and cylinder at the same time, **causing the machine to feed much easier** than those without such elevation.

Ninth.—The Feed-table is easily taken off and replaced, making the machine shorter and more convenient when moving and stowing away, than those that have stationary tables.

Tenth.—By simply changing the cylinder-pulley, shaker-wheel and a portion of the feed-table, all of which does not require more than three or five minutes to accomplish, **this Thresher and Cleaner may be set on either side of the Horse-power.**

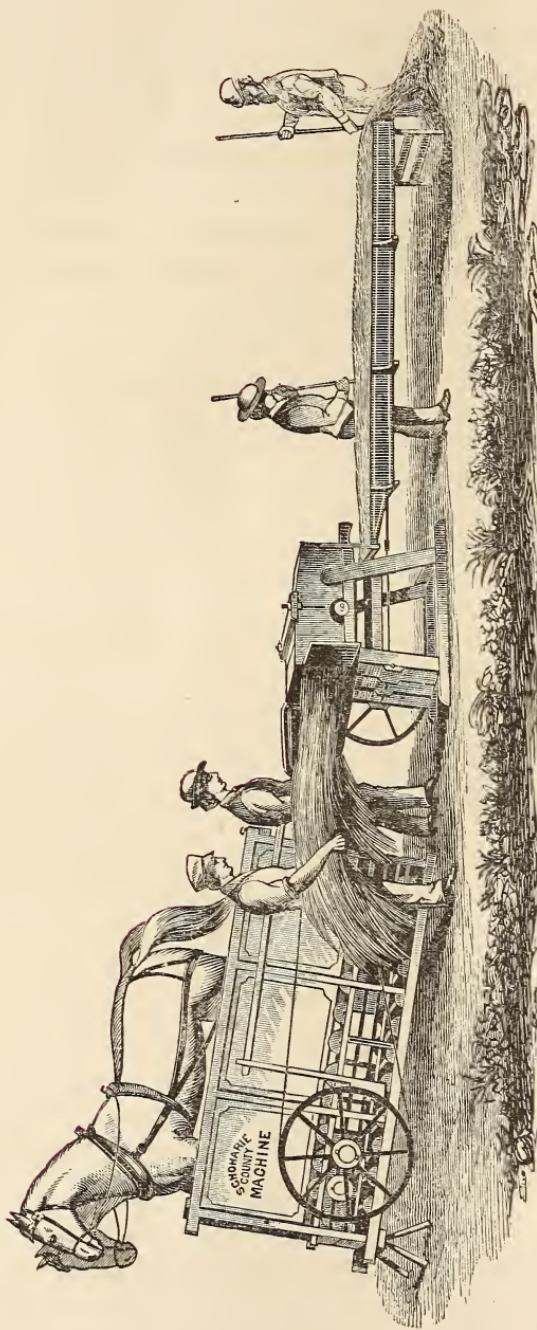
Sizes of Threshers and Cleaners.

We build two sizes of Threshers and Cleaners, the larger one designed for Three-horse Railway-powers, being of precisely the same style, kind and construction as the 28-inch cylinder Thresher and Cleaner which is intended to be used with Two-horse Powers only, except a difference of 4 inches in width.

The capacity of the larger Thresher and Cleaner is sufficient for operating with Four-horse or Six-horse Lever-powers, as its continued use with such Powers, for years passed, fully attests.

Weight of Three-horse Railway-power, 2400 lbs. Weight of 32-inch cylinder Thresher and Cleaner, 1200 lbs.

Two-horse Power, Thresher, and Separator, in Operation.



Price of Two-horse Power, Thresher, and Separator (without Cleaner), 30-inch Cylinder, Oil-can and 2 Wrenches, without belt,	-	-	-	-	\$270 00
Price of One-horse Power, Thresher, and Separator (without Cleaner), 26-inch Cylinder, Oil-can and 2 Wrenches, without belt,	-	-	-	-	235 00

Weight of Two-horse Power, 1,850 lbs.; 30-inch cylinder Thresher, and Separator, 500 lbs.
 " One-horse " , 1,400 " ; 26-inch " " , 450 "

One-horse and Two-horse Machines.

The cut on opposite page represents a Two-horse Power, Thresher, and Separator, threshing, and separating the straw and grain without cleaning it. We build Threshers, and Separators, of this kind, of different sizes, with **all the modern improvements**, adapted to both One-horse and Two-horse Powers.

These machines are **simple in construction, substantial and durable, do their work in the best possible manner**, and are suited to the use of farmers raising such quantity of grain as does not justify the purchase of a more expensive machine. They **thresh very rapidly**, and it is believed they are **capable of doing more business in a given time** than any other One-horse or Two-horse machine in the world.

Patent Dust-flue.

One of the most Valuable and Important Improvements
that has ever been made,

in connection with Threshing-machines, is, Harder's Patent Dust-flue, a circular attachment directly over the concave, as long as the cylinder, and about six inches wide, starting in front of the concave and extending to the opposite side of the same, through which a current of air is driven when the cylinder is in motion, which **sucks all the dust from the front of the cylinder**, and delivers the same on the separator, whence it is carried off with the chaff and straw, thereby **entirely relieving the feeder from the injurious effects of dust**, which have prevented so many from following the business of threshing with machines destitute of this device.

The real value of this invention is fully attested by the voluntary statements of parties using the same, who universally say they "**would not be without it for many times its cost.**"

The benefit of this Flue is further shown by the large number sold during the past nine years, and the **constantly increasing demand** for it. I am not the sole owner of the patent on this Dust-flue, and therefore, it is an **extra** for which the charge is \$10, and will be attached to machines, only when ordered.

Horse-powers--With or Without Rods.

Special attention is called to the fact that some manufacturers are building Railway Horse-powers without cross-rods in the bridge, claiming the omission to be an improvement. Powers of this kind have been built for several years past, and yet have found little or no favor with the public for the very excellent reason that they **have not been as reliable and durable as those with rods**, having too generally proved like those of a certain purchaser, who, using Powers extensively, said, "I was induced to buy several Powers without cross-rods in the bridge, but they were **breaking so continually that I was obliged to start a repair-shop of my own to keep them in running order.**"

The **secret** of the improvement in dispensing with these cross-rods, consists chiefly in the fact, that if the Power is sold at the same price as those *with* rods, which is generally the case, it allows the manufacturer to pocket an **extra profit** of about twenty dollars.

Knowing that Railway-powers are **far more durable and valuable with rods than without**, we shall continue to put them in, believing that those in want of machines will consult **their best interest**, and avail themselves of such as will be **cheapest in the end.**

Size and Adaptation of Horse-powers.

We build Powers for one, two, and three horses, all of the same length and construction, differing only in width, **adapted to driving Threshers, Clover-hullers, Wood-saws, Fodder-cutters, Feed-mills, Cotton-gins, Grain-elevators, Pumps, and all other farm machinery** that admits of being driven by horse-power.

The Band-wheel and Gear-wheels of these Powers are changeable from one side of the Power to the other, thus allowing the setting of the machine to be driven, on either side of the Power.

For the purpose of preventing accidents by the breaking or running off of the main belt, we attach two pulleys to each Horse-power, one on each side, at or near the upper end of the upper or front posts; and by means of a cord, or small rope, sent with each machine, which is easily attached to the upper end of the upright brake-stick, running thence to and around one of said pulleys, and thence backward through the three rear posts to the person attending the machine driven, where the same may be fastened to the side of the machine, or elsewhere at some convenient place within his reach, so that the Power can be stopped by him instantly and without moving from his place. **This is one of the most simple, convenient and effective arrangements for regulating, controlling and stopping a Horse-power, in use.**

EXPENSE OF THRESHING

With Railway-machines as compared with Lever-power Machines.

That threshing can be done at less expense with Railway-power than with Lever-power machines, is a fact well worthy of attention. The following statements show the comparative cost of threshing with the two kinds of machines:

Average day's work for Ten-horse Lever-power Machine, estimated, 350 bushels of wheat. Cost of threshing the same, as follows:

Ten men @ \$1.50,.....	\$15 00
Ten horses @ \$1.00,.....	10 00
Boarding men and horses @ 50c.,..	10 00
<hr/>	
Total,.....	<u>\$35 00</u>

Cost per bushel,.....10 cents.

Average day's work for Two-horse Railway-machine, estimated, 175 bushels of wheat. Cost of threshing the same, as follows:

Five men @ \$1.50,.....	\$7 50
Two horses @ \$1.00,.....	2 00
Boarding men and horses @ 50c.,..	3 50
<hr/>	
Total,.....	<u>\$13 00</u>

Cost per bushel,.....7 cents and 4 mills.

Difference in favor of Railway over Lever-power Machines, over 25 per cent.

The foregoing calculations are made upon the supposition that the farmer owns the machines, and charges nothing for the use or wear of the same in either case.

Should the estimate be based upon the assumption that the farmer hires his grain threshed, the relative cost to him would be as follows:

With Lever-power Machine.

Eight men to be furnished by the farmer @ \$1.50,.....	\$12 00
Six horses to be furnished by the farmer @ \$1.00,.....	6 00
Boarding 10 men and 10 horses @ 50c.,.....	10 00
Charge for machine, &c., 7c. per bushel,.....	24 50
<hr/>	
Total,.....	<u>\$52 50</u>

Cost per bushel,.....15 cents.

With Railway-machine.

Three men to be furnished by the farmer @ \$1.50,.....	\$4 50
Boarding 5 men and 2 horses @ 50c.,.....	3 50
Charge for machine, &c., 7c. per bushel,.....	12 25
<hr/>	
Total,.....	<u>\$20 25</u>

Cost per bushel,....11 cents and 5 mills.

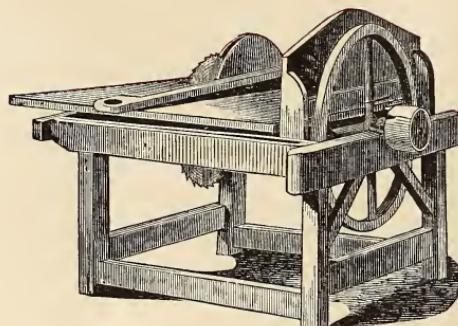
Difference in favor of Railway over Lever-power Machines, about 25 per cent.

The above estimates are made from careful observation during years of experience, and are **as fair for one machine as the other**.

Not only is threshing with **Railway-machines a large percentage the cheaper**, but it enables the farmer, if he has a machine of his own, to do his threshing whenever it **suits his convenience, in stormy, bad weather, as well as in good**, when he cannot work out doors, but it enables him to do the same with his own horses, and

with little, if any, extra help, to say nothing of the waste of grain by large machines, and the annoyance of awaiting the promises and disappointments of others, which is not unfrequently of great loss to the farmer, on account of change of markets, &c.

Circular-saw Machine.



This cut represents a Circular-saw Machine, with which from **25 to 30 cords of wood are sawed per day**, the sticks being cut twice in two. It is a **very useful, labor-saving machine**, and every farmer having a Horse-power or Water-power should have one.

Advantages Claimed for this Machine.

First.—The balance-wheel, which is larger in diameter and heavier than most others used for this purpose, is **strongly banded** around its rim **with a wrought-iron tire**, $1\frac{1}{2}$ inches wide and $\frac{3}{8}$ inch thick. On account of its greater diameter and weight, a **more uniform motion** of the machine is maintained.

Second.—The shaft, **which runs in Babbit-metal boxes**, is a superior one, being large, $1\frac{3}{4}$ inches in diameter, with heavy collars at the sides of the boxes to prevent too much play endwise.

Third.—It has a large, tight table about 4 feet 2 inches square, which moves on rollers; while most others have much smaller tables, which move on slides, and are composed of slats, through which the wood, particularly if small, is liable to fall.

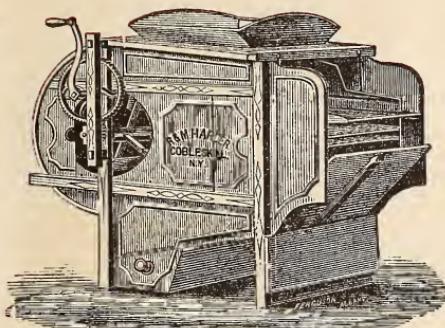
Fourth.—There is a handle attached to the table, as may be seen in the cut, for the purpose of holding the wood while being sawed.

Fifth.—There is an upright guard-board, which may also be seen in the cut, the object of which is to prevent the wood from getting into the balance-wheel.

Price of Circular-saw Machine, with 24-inch Saw, - - - \$75 00

Weight, 425 lbs.

Improved Bevel Fanning-mill.



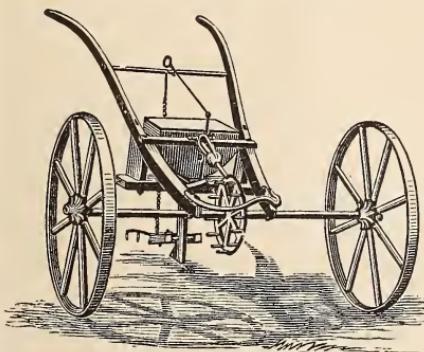
The building of this Mill, which **runs easily and cleans all kinds of grain and seeds in a manner universally satisfactory**, was commenced at these works several years since, at the earnest solicitation of persons who had long been acquainted with its merits, it having formerly been built by a workman now in my employ. I am, therefore, **enabled to recommend it understandingly**, as a very superior Mill, and one that **cannot fail to please** all who may purchase it.

Price, - - - - - \$40.00

Weight, 240 pounds.

Seed-sower and Planter.

The Best of its kind.



Convertible to more uses
than any other.

Attention is invited to Sims' Patent Champion Seed-sower and Planter, which **does its work in the most perfect manner**, both in sowing and planting all kinds of seeds, from corn and beans down to the smallest. These Sowers and Planters **do their own marking out**, and when

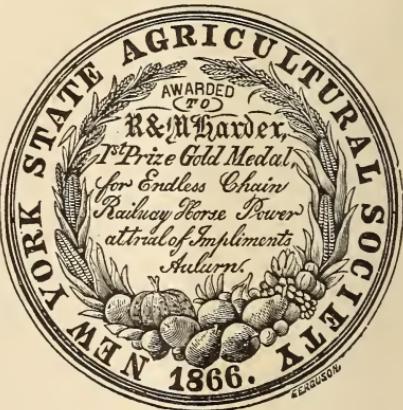
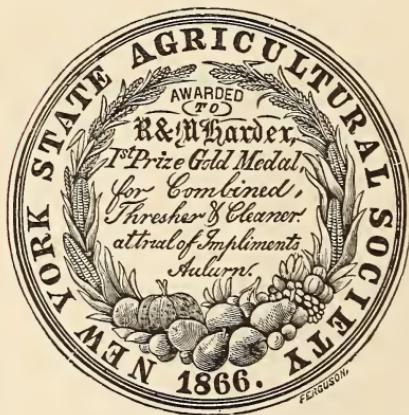
planting in hills, drop an equal quantity the same distances apart; and when **sowing in drills**, distribute the seed perfectly even and regular.

We build two sizes of these machines of the same construction, differing only in width, one for sowing and planting one row and the other for three rows, the rows being eight inches apart. The accompanying cut shows a one-rowed machine.

This Sower and Planter is **adapted to both garden and farm purposes**, especially to the putting in of carrots, parsnips, onions, broom-corn, &c., drawn by man or horse, according to the kind of soil, depth, and amount to be planted or sown. It is believed to be suited to a greater variety of uses than any other Drill in America, and **really the best implement before the public for sowing and planting all kinds of seeds**. It can be regulated to sow as thickly or thinly as may be desired, and **never clogs nor fails to drop** at any of the following distances for which it may be set, viz.: 7, 14, 21, 28 and 42 inches.

JUDGES' REPORT

On Harder's Horse-power, and Thresher and Cleaner, at the great National Implement Trial, held at Auburn, N. Y., commencing July 10th, and ending July 27th, 1866.



The New York State Legislature appropriated \$5,000 for the purpose of carrying out this, the most thorough and extensive implement trial ever had in any country, and intrusted its management to the N. Y. State Ag. Society, by which the following well-known gentlemen, among whom were some of the most scientific and practical agriculturists and machinists of our country, were selected as the

Board of Judges.

Hon. JOHN STANTON GOULD, President New York State Agricultural Society, Hudson, N. Y.

Hon. EZRA CORNELL, Ex-President New York State Agricultural Society, Ithaca, N. Y.

Hon. A. B. CONGER, Ex-President New York State Agricultural Society, Haverstraw, N. Y.

Hon. BENJ. P. JOHNSON, Secretary New York State Agricultural Society, Albany, N. Y.

Hon. ELISHA FOOTE, late Commissioner of Patents, Washington, D. C.

Hon. E. R. POTTER, Kingston, R. I.

Hon. SAMUEL CAMPBELL, Ex-President New York State Agricultural Society, New York Mills, N. Y.

Prof. BENJAMIN PIERCE, Cambridge University, Cambridge, Mass.

SANFORD HOWARD, Esq., Secretary State Board of Agriculture, Lansing, Mich.

HENRY WATERMAN, Esq., Engineer, Hudson, N. Y.

T. L. HARRISON, Esq., Morley, N. Y.

The following is a copy of the

JUDGES' REPORT.

CLASS VII.

HORSE POWERS, INCLINED ENDLESS CHAIN.

R. & M. Harder, Cobleskill, Schoharie County, N. Y. Entry No. 1.

Messrs. Horace L. Emery & Son, and Wheeler, Melick & Co., both of Albany entered machines under this class, but finally concluded to withdraw them. The trial was, therefore, restricted to Entry No. 1 alone.

Weight of the Horse Power, 1850 lbs. Price, \$190

As every farmer is acquainted with the general principles of Endless Chain Horse Powers, we will confine our description to points which are peculiar to this machine.

First. — It is somewhat longer than other machines with which we are acquainted ; the sides are also somewhat lower, admitting more air to and under the horses in hot weather. The entire length of the chain is 18 3-12 feet. There are 31 links each 7 inches long. It is 4 feet 7 inches wide from outside to outside of sills.

Second. — The upper and lower parts of the chain are, of course, flat and parallel to each other ; the two ends form arcs of a circle. Now it is plain that when the chain consists of an even number of links, the center of two of the links must be upon the end of the versed sines of both arcs at the same period of time ; the link (7 inches long) therefore forms a tangent at the arcs, which produces a strain upon

the chain equal to twice the horizontal distance from the end of the link to the curve of the arc, which relaxes as soon as it passes the versed sines. It will be readily seen that this alternate tension and relaxation will cause a jerking and irregular action, which consumes power uselessly, and wears out the machine rapidly. This difficulty is obviated in Messrs. Harders' machine, by putting in an odd, instead of an even series of links. In this way only one of the links can be a tangent at the versed sine at once; the point of *greatest tension*, at one end will always be met by the point of *greatest relaxation* at the other, which equalizes the strain, and causes it to move much more smoothly, and with greater economy of power.

Third.—The same principle is carried out in the arrangement of the reels. The usual way of constructing those powers is, either to carry round the lower end of the chain on a curved railway, or on a reel having the same number of arms as the upper one. It will be readily seen that when both these arms are in the same straight line, the tension will be much greater than when they are not in the same line. To prevent the occurrence of this difficulty, Messrs. Harders make their upper reel with *seven* clutch arms, while the lower one has only *five*; by this arrangement the point of *greatest tension* in the upper reel corresponds with the point of *least tension* in the lower one.

This equalizing feature of the links and clutch arms is a distinctive feature of this machine, and the result is, that it works *more equably, more smoothly, and with less waste of power* than any machines that we have ever met with.

Fourth.—Most Endless Chain Powers carry the chain and friction rollers around the curve of the lower end, on a railway. When the upper part of the chain is moving downward, toward the lower end, the friction rollers are rotating in the same direction as the hands of a watch, but when they pass the extremity of the curve, their motion is reversed, so that their rotation is opposite to the hands of a watch; the same change of direction, of course, occurs at their passage from the lower to the upper side of the chain; the power employed in overcoming the inertia of these wheels is therefore lost, and at the points where the change of direction is made, the surface of the railway is abraded, the rollers themselves are more worn, and the friction is, therefore, more cumulatively increased, and, after continued wear, becomes very objectionable.

In this machine the chain is carried round both the curves by the clutch arms of the reels, the upper and lower railway terminating where they cease to be parallel. On leaving the railway the friction rollers revolve on their own axes, in free space, and in passing the distance of seventeen inches their motion of rotation is arrested by friction on their own axes; and when they re-enter the railway there is no inertia to be overcome, their advent is *quiet* and *noiseless*, and without injury to the rollers or the railway. We believe that this arrangement is peculiar to this machine, and is, in our opinion, a great merit.

Fifth.—The construction of this machine is such as to produce a sufficient speed for threshing, by a *very slow and easy* movement of the horses, as will be seen from the following statement.

The large cog wheel, which is keyed on to the large reel shaft, makes 4 3-7 revolutions to one revolution of the chain. The pinion, which is keyed to the band wheel shaft, and is carried by the large cog wheel, makes 5 1-2 revolutions to one revolution of the large wheel. The diameter of the band wheel is 38 1-2 inches. The average number of revolutions of the chain in one minute was, according to our observations, while threshing, 6 3-4 to 7.

Assuming seven revolutions per minute as the true motion of the chain, we have fifteen rods less than one and a half miles travel of the horses in an hour. This slow

rate of movement of the chain adapts it better to the use of oxen, as well as horses, than any others, which require a more rapid rate of travel.

Sixth. — The friction rollers in this machine have a greater diameter than most other machines, being six inches. The result of this is, that they make fewer revolutions on their axes in traveling a given distance than those of a less diameter, and, therefore, the friction is proportionally diminished.

Seventh. — The mechanical execution of this power is deserving of high commendation. A very careful examination of every part showed thorough and conscientious workmanship and material in every place; nothing was slighted; the strength of material was admirably distributed, and the gearing was very superior throughout. The boxes of the main shafts were of metal, which run without heating.

We have seen of late that some manufacturers build bridges without cross rods. We have had no experience ourselves of the effect of this omission on the durability of the machine, but the fact that Messrs. Harders have retained these rods gives us more confidence in its durability, and makes us feel more safe in commending it with assurance to the farmers of the State, as one which will be little liable to give them trouble by breaking.

Eighth. — The following experiments were made to test the friction and the useful power of the machine:

The weight of the horses was 2,326 lbs. When the front end of the machine was elevated fifty-six minutes, it produced a motion of the platform sufficient to thresh grain, or seven revolutions of the chain per minute. A Prony's brake was screwed to the periphery of the band wheel, so tightly that it could not slip, the radius of the circle being 3.97 feet. It required 13 lbs. applied at the extremity of the radial bar to counterbalance the weight of the horses when the angle of the machine was 13 degrees. The nuts were now turned so as to permit the band wheel to revolve slowly in the brake, when it required 13 3-4 lbs. to counterbalance the radius.

It follows from this, that the horses travel 127.75 feet per minute on the hypotenuse of a right angled triangle, whose angle opposite to the perpendicular is 56 minutes. By the usual trigonometrical process the perpendicular is ascertained to be 2.081 feet. This height 2.081 ft. \times 2,326 lbs., the weight of the horses, = 4,840.406 + 33,000 = 0.146 horse power consumed by friction.

Seven revolutions of the chain in one minute, \times 4,428, the number of revolutions of the driver, to one revolution of the chain; \times 5 $\frac{1}{2}$, the number of revolutions of the pinion, to one revolution of the driver; \times 25 ft., the circumference of the circle formed by the revolutions of the brake; \times 13.75 lbs., sustained by the brake, = 58,601.81 raised 1 ft. high in 1 min., + 33,000 lbs., which is one horse power, = 1,776 horse power, as the effective force of the horses. This amount of useful effect exerted by the horses, added to 0.146 horse power consumed by the friction, amounts to 1.922 horse power. The remainder = .078 horse power probably arises from the fact that a higher angle than 13 degrees is required to exhibit the maximum power of the horses.

We have no hesitation in awarding to this power a Gold Medal

Reverse side of

GOLD MEDALS.



CLASS X.

TWO-HORSE COMBINED THRESHERS AND CLEANERS.

Entry No. 7.

Weight of Machine, 1,100 lbs. Price, \$210.00. Dust Flue, Extra—Price, \$10.00.

This machine is of great value, and has several features different from any thresher and cleaner within our knowledge.

First.—The thresher is overshot. The cylinder is of wood, covered with sheet iron and heavily banded; is heavier than usual; accurately balanced, so that very little vibration is produced when revolving at its highest speed. The cylinder revolves about 1,100 times a minute, when the horses travel at the rate of $1\frac{1}{2}$ miles per hour.

Second.—The teeth, which are heavy, are not put into the cylinder with a screw, as is usual, but are driven in, and clinched on the inner side. By this arrangement, if a tooth breaks, another can be replaced in the same spot, which cannot so well be done when put in with a screw.

Third.—The feed table ascends $2\frac{1}{2}$ inches next to the cylinder, at which angle the straw enters most readily between the teeth of the cylinder and concave, and stones and other hard substances which may be in the straw roll downward, without injury to the teeth of the thresher.

Fourth.—The ends of the cylinder shaft are of cast steel, and are a quarter of an inch more in diameter, as claimed by them, giving a wider bearing against the boxes.

Fifth.—A dust flue is attached to the thresher (when ordered), which is a very great relief to the operator.

Sixth.—The concave is so adjusted that in raising it by means of the nuts, the front edge raises somewhat more rapidly than the hinder one, by means of which there is more room in front to receive the straw easily, when in its stiff and unbroken state, and allowing the back teeth to do the most threshing when the straw has been bruised and softened, consequently less power is required to take through the same amount of straw.

Seventh.—The feed table is easily removed, and can be easily replaced.

Eighth.—The cylinder shaft is provided with a ratchet coupling, by means of which the cylinder continues to revolve freely when the horse power is suddenly

stopped, which avoids the dangerous wrench which would ensue if the great velocity of the cylinder were suddenly arrested.

Ninth. — It can be changed from right to left hand by a very simple and easy adjustment.

Tenth. — The arrangements for separating the grain from the straw are unusually good; two forked arms in the separator are continually rising and falling, which keep the straw loose and facilitate the separation of the grain. It has a quick vibration of 4 inches.

The end most remote from the cylinder is hung $4\frac{1}{2}$ inches higher than that which is nearest to it, and by a peculiar arrangement of the hangers the motion is materially improved.

Eleventh. — The sieves are larger than usual; they are five in number, shaken laterally, and are supplied with a very powerful stream of wind.

Twelfth. — The mechanical construction and execution are of the very best kind, and we have no hesitation in saying that, in our opinion, this machine embodies the greatest advances that have yet been made in the art of separating grain from the straw.

In our trial it threshed two hundred and fifty bundles of wheat in forty minutes, producing eleven bushels of clean wheat. It delivered the grain in a very clean and excellent condition. We fully believe it to be admirably adapted to meet the wants of the farmers, and, therefore, we recommend to the Executive Committee to give a Gold Medal to this machine.

WE HEREBY CERTIFY that the foregoing are true copies of the Report of the Judges at the Implement Trial held at Auburn in July last, relative to the machines exhibited by R. & M. HARDER, of Cobleskill, N. Y., at said trial.

JOHN STANTON GOULD,
President.

BENJAMIN P. JOHNSON,
Secretary.

HUDSON, N. Y., September 1st, 1866.



Auburn Trial.

From the New York Observer, August, 1866.

At the trial of Agricultural Implements held at Auburn, N. Y., a short time since, Messrs. R. & M. HARDER, of this village, had one of their Threshing-machines entered for competition, and we clip the following from the *New York Observer*, which we consider a very deserving testimonial of the merits of their machine:

"Several Railway or endless platform Horse Powers, with threshers and separators, were entered for competition, but were all withdrawn as soon as it was known that R. & M. HARDER, of Cobleskill, N. Y., had entered the field. This movement left the trial entirely in the possession of this machine. Of course the Gold Medal will be awarded to the proprietors, as they have fully complied with all the requirements of the trial, their competitors virtually conceding that there was no use in attempting to compete with a machine that operates so eminently satisfactory, and with so little power."

This we think very complimentary, and shows pretty conclusively that the machine is the best one manufactured. — [Cobleskill Index, August 22, 1866.]

The Harders Triumphant.

From the Schoharie Union, September 27, 1866.

We cheerfully set apart considerable space of this paper for the publication of the report of the judges of the great National Implement Trial, held at Auburn in July last, relative to the Horse-power, and Thresher and Cleaner of R. & M. HARDER, of Cobleskill, in this county; and in connection therewith we are prompted by a sense of pride, as well as duty, to volunteer a few comments. There has of late arisen a spirited rivalry among the manufacturers of this class of machines, and this paper has been made the vehicle of some pretty sharp controversy between some of the contestants for public favor. Irregular trials have heretofore been had in one place and another, between competing machines, but with no satisfactory permanent results; and we have never believed that the superiority of any machine could be established until a test was subjected to the judgment of such eminent and impartial judges as directed the trial at Auburn. Such trial has been had, and the result is not only gratifying to the successful competitors, but it is important to the agricultural community, as it serves to aid farmers in determining what machines are the most expeditious and economical, and therefore the most desirable to have.

The Auburn Trial has established, beyond further cavil or doubt, the superiority of the Harder machines; and the correctness of the decision of the judges is admitted, impliedly at least, by the manufacturers of other machines, in that some who had entered their machines withdrew from the contest (*vide report*), thus leaving the Harder machines the undisputed champions of the field; while others who had the opportunity to contest for the championship, failed to bring their machines on the ground, which it is very natural to believe they would have done had they considered their manufacture equal, or superior to the Messrs. Harders. Their withdrawal or non-appearance, therefore, virtually amounts to a concession to the Harder implements; a concession, too, which, under the circumstances, detracts more from their machines than if they had submitted them to trial and got fairly beaten, as they probably anticipated they would be. We think that to the disparagement of their own credit, they chose the wrong horn of the dilemma.

By reference to the report it will be seen that the trial was a very rigid one. Every part and feature of the machines were subjected to the closest scrutiny, and their mechanism so thoroughly investigated as to develop every principle involved, in order that the decision of the judges should be founded on merit, rather than for the fulfilling of a simple mechanical duty. This fact fortifies the position we have the right to assume, that all other machines were withdrawn or withheld from the trial, because they could not undergo the severe examination the Harder implements would bear. But there is another circumstance which we wish to note as establishing the superior merit of the Cobleskill machines, which is not developed in the report, but which appears in the general proceedings of the trial of all implements entered. In several classes, in some of which there was competition, and in others none, *no gold medals* were awarded, because the machines or implements did not possess sufficient merit to entitle them to the highest testimonials that can be bestowed; but in the case of the Harder Horse-power, and Thresher and Cleaner, the judges recommended the awarding of *two gold medals*—one for the Power, and the other for the Thresher and Cleaner—a compliment of which the Messrs. Harder may well be proud. And, when we take into consideration the character of the gentlemen who composed the board of judges, namely, Hon. John Stanton Gould, Hudson, President, and Hon. B. P. Johnson, Albany, Secretary of N. Y. State Agricultural Society; Sandford Howard, Esq., Secretary State Board of Agriculture, Lansing, Mich.; Hon. E. R. Potter, Kingston, R. I.; Prof. Pierce, Cambridge University; Hon. Elisha Foote, Patent Office, Washington, D. C.; Hon. A. B. Conger, Haverstraw, N. Y.; Hon. Ezra Cornell, Ithaca, N. Y.; Hon. Samuel Campbell, New York Mills, N. Y.; T. L. Harrison, Esq., Morley, N. Y.; Henry Waterman, Esq., Hudson, N. Y., no one, however partial he may formerly have been, can longer refuse to surrender the palm to the Messrs. Harder.

Wherever their machines may be used (and they are rapidly supplanting all others), their advantages will hereafter be more easily recognized and established, not only by the quantity and quality of the work they perform, but by aid of the report of investigation of the judges of the recent trial, which marks out, to a mathematical calculation, the points of superiority.

The people are beginning to find out by practical experience what the trial has indicated, that the machines of the Messrs. Harders' manufacture are the best in use; and we are gratified to learn that the business of these gentlemen has so rapidly increased that their capacity to turn out work is not commensurate with the demand. They therefore contemplate enlarging their agricultural works the next season. Their success is richly due them for the enterprise they evince; and the people of the county will indulge an honorable pride over the fact that our manufacturing establishments rank among the very best in the world. We ask a careful reading of the report elsewhere published.

Certificate of the President and Secretary of the N. Y. State Agricultural Society.

At a meeting of the Executive Committee of the New York State Agricultural Society, held at Albany October 25, 1866, the Hon. JOHN STANTON GOULD, President, presented a protest, signed by the following makers of Horse Powers and machines for threshing and cleaning grain, viz.: Wheeler, Meeleick & Co., Horace L. Emery & Son, and the Albany Cotton Gin Manufacturing Company, protesting against the award of Gold Medals to R. & M. Harder on their Horse Power and Combined Thresher and Cleaner, at the National Trial of Implements, Auburn, N. Y., July, 1866, which the Board considered as follows:

"It is asserted that the trial of Threshing Machines at that season of the year was UNPRECEDENTED. This assertion of the protestants is erroneous. Our own records show a precedent. At the great trial of Mowers and Reapers at Geneva in 1852, Horse Powers and Threshers and Cleaners were subjected to a trial protracted through several days; and as Mr. Emery, one of the protestants, was present at the trial as a competitor, he must have known that a trial at that season was not unprecedented.

It is stated that only one kind of grain could be obtained at that time at Auburn. This is erroneous. We reaped during the trials wheat, rye and barley. These three grains could all have been obtained; and if the protestants had been present, they would have been tested in all of them, had they desired it.

They allege that the trial was prosecuted against their remonstrance. The programme for the trial of these machines was placed in the hands of all the protestants early in the spring. Mr. Emery corresponded with the committee to an extent covering many sheets of letter paper in settling its details, *but not a single word of remonstrance was uttered by any of them until after Mr. Harder had entered his machines*, about a fortnight before the trial, and paid his entrance fees.

Mr. Harder, after this, demanded that the trial should be had at the time and place appointed. We could not refuse, therefore, to comply with his wishes, without a manifest breach of faith.

It is alleged that the season selected for the trial was their busiest season for sales. *It was equally Mr. Harder's busiest season; and if he was willing to make the sacrifice, it is not perceived that they would suffer more than he.*

Most of the gentlemen who acted as judges did so at very considerable sacrifice. Some of them were engaged in business so vast that the business of the protestants is very small in comparison with theirs. Others came a great distance from their homes. We cannot ask them to repeat these sacrifices for the sole convenience of these protestants. In view of these considerations, it was, on motion,

Resolved, That in the opinion of this Board, *these protestants have no cause of complaint*, and that we therefore feel constrained to refuse their application for a special trial."

We hereby certify that the foregoing is a true and correct copy of the proceedings of the Executive Committee of the New York State Agricultural Society, relative to the protest or remonstrance above referred to.

JOHN STANTON GOULD, President.

BENJAMIN P. JOHNSON, Secretary.

ALBANY, May 20, 1868.

WHAT THE PEOPLE SAY

ABOUT THE

HARDER MACHINES.

The following are extracts of letters received from persons who have used these machines; also, editorial remarks from papers, and reports from committees of fairs. Particular attention is invited to the fact that most of them speak of the ease with which teams work these machines, and the perfect manner in which they operate in performing every thing that may properly be required of them. In referring to the quantities threshed, the testimonials probably give results performed under favorable circumstances, and therefore we would not wish it understood that our machines can do as much under *all* circumstances: however, we have no doubt of the truth of every statement therein contained, and that every machine sent out from the Empire Agricultural Works is capable of doing as well under like circumstances.

NEW YORK.

Good Advice.—Freelen Van Deusen, Hillsdale, N. Y., writes Dec. 25, '71: "I had used Two-horse Powers of different manufacture before I sent for one of yours, and do say that yours will give more power with less elevation and slower motion of team (which makes it very easy work for the team) than any Power I ever saw. I cannot say enough for it. Would recommend it to every farmer wanting one."

Elevating Grain.—A. Goodwin, North Hector, N. Y., writes Dec. 9, '71, about our One-horse Power: "I am well suited. It works well in every respect. We can elevate 500 bushels of grain per hour, and I think you will find sale for more to parties who are thinking of putting elevators in their warehouses, and want your Powers in preference to any others."

Model of Perfection.—W. W. Pelton, Warwick, N. Y., writes Feb. 15, '71, about our Two-horse Power, and Thresher and Cleaner: "I consider it the very model of perfection. The Dust-flue alone is worth half the cost of the machine, relieving the feeder entirely from dust. The farmers are all highly pleased with its cleaning, and I am well pleased with the ease with which the team does its work. It is the only machine I ever purchased that entirely filled its warranty, except a Buckeye Mowing Machine."

Mr. Pelton further says, Nov. 18, '71: "My machine has become a great favorite among the farmers throughout the town."

Just as Recommended.—Frank Spaulding, Union, N. Y., writes Jan. 8, '71, about our Two-horse Power, and Thresher and Cleaner: "I have found my machine, in every respect, just as you recommended, and have earned one-third more than my neighbor who run a W-&M—machine, and did it in less time. Have not paid out one cent for repairs."

A Good Name.—T. W. Parkinson, North Bridgewater, N. Y., writes Dec. 21, '70, about our Two-horse Power, and Thresher and Cleaner: "Your machine gives perfect satisfaction throughout, both in amount and manner of work. There are six other Railway-machines and two Eight-horse Lever-power machines within five miles of here, so you may be sure we have had opposition, but we have the name of having the best machine in this section. We set our Power from 4 to 6 inches lower than any of the others, and yet we get more power."

Slight Elevation.—W. H. Vandee, Afton, N. Y., writes Sept. 10, '70, about our Two-horse Power, and Thresher and Cleaner: "Beats any machine in the country. I have threshed 30 bushels wheat and 70 of oats per hour, with the Power elevated only 18 inches. It cleans better than a Fanning-mill, the team works easily and the Thresher runs nicely."

Nothing too Commendatory.—W. T. Ward, Newburgh, N. Y., writes Sept. 8, '70, about our Two-horse machine: "It far exceeds my expectation, and no improvement upon it could be suggested. It has given satisfaction wherever it has been, and I can say nothing too commendatory regarding it."

Under-estimated.—A. O. Brink, Owego, N. Y., writes Aug. 6, '70, about our Two-horse Power, and Thresher and Cleaner: "I am disappointed. You do not give your machine as great a recommend as it will bear. Can thresh more grain and do it in a better manner than any Two-horse machine I ever saw. Money would not buy the Dust-flue if I could not get another."

Suited Every Way.—D. F. Moore, So. Cameron, N. Y., writes Feb. 21, '70, about our Two-horse Power, and Thresher and Cleaner: "We are well suited with the machine in every way. It works well and is easy for the team. We threshed 140 bushels wheat in one-half day, and 125 bushels oats in two hours."

Couldn't get Acquainted.—C. M. La Monte, Owego, N. Y., writes Feb. 7, '70, about our Machines: "The machines of your manufacture, in this section, have given entire satisfaction in all cases. The only complaint being that of Mr. Court-right, who says, he cannot stay long enough in a place to get acquainted. Ryan & Romaine threshed 127½ bushels of wheat, very large straw, in half a day, with your Two-horse machine."

Surpasses Others.—N. Ranney, Forestville, N. Y., writes Jan. 30, '70, about our Two-horse Power, and Thresher and Cleaner: "Have proved satisfactory all around. I can safely say it is the best machine in use, and Mr. Cannon says it will beat any machine he ever saw, and he has run a W—— machine 5 years and a W—— & M—— 2 years."

First Best.—G. A. Eckert and James Caldwell, Farmersville, N. Y., write Jan. 28, '70, about our Two-horse Power, and Thresher and Cleaner: "We like our machine first best. Have threshed 500 bushels of oats between 9 o'clock in the forenoon and 3 o'clock in the afternoon, and 150 bushels in one and a half hours."

Patrons Pleased.—Ralph Lewis, Cuba, N. Y., writes Jan. 28, '70, about our Two-horse Power, and Thresher and Cleaner: "We like our machine very much, and it gives the best of satisfaction to our patrons. Have threshed 521 bushels of oats, set, took up and moved the machine, in one day. Also, 261 bushels between 1 and 5 o'clock."

Dust-flue Appreciated.—Chas. Ladow, South Galway, N. Y., writes Jan. 27,

'70, about our Two-horse Power, and Thresher and Cleaner: "We think your machine has no equal—at least I have never seen any fit to compare with it. The Dust-flue, I think, is the best contrivance ever made for carrying off the dust. We have not used sponge or glasses this fall, and we had to use both when we used other machines. Our threshing this season amounted to over \$700, and the expense for repairs was only \$1.25."

\$350 Quickly Earned.—S. D. Wilson, Hastings, N. Y., writes Sept. 20, '68, about our Two-horse machine: "On Wednesday last, between two o'clock and sunset, we threshed 234 bushels of loose oats. I started August 10th, and since then have earned over \$350."

Cleaned out other Machines.—Chas. A. Walrath, Minden, N. Y., writes Feb. 26, '68, about our Two-horse Power, and Thresher and Cleaner: "We have cleaned the grain all right, and have cleaned the other machines out of the neighborhood. Have earned \$18.54 in one day, threshed 445 bushels oats in one day, with only three hands. I can thresh more than any other Tread-power machine that has ever run in this town."

None but a "Harder" can do the Threshing.—Job Tanner, West Richmondvile, N. Y., writes Feb. 11, '68, about our Two-horse Power, and Thresher and Cleaner: "It gives perfect satisfaction; and many of my patrons, having used all the other machines with which this country is infested, have declared to me, that hereafter none but a "Harder" could do their threshing."

Dust-flue worth \$100.—J. T. Moses & A. J. Smalley, Friendship, N. Y., write Feb. 10, '68, about our Two-horse Power, and Thresher and Cleaner: "With 6 to 8 inches less elevation, we can thresh as much as the W—— machine. Would not have the Dust-flue taken off for \$100, if we could not get another. We threshed for one man two days, and earned \$50. There is one Three-horse Railway-machine here, and we have threshed as much and more per day than they could. We threshed 140 bushels of wheat in one-half day."

All it was Recommended to be.—D. D. Mills, Deposit, N. Y., writes Jan. 28, '68, about our Two-horse Power, and Thresher and Cleaner: "The machine is all you recommended it to be. It threshed 300 bushels of buckwheat in one day after the dew was off; and over 400 bushels another day, and set up in three different places. This is doing work fast enough, and faster than I ever saw it done before."

Faster than an Eight-horse Machine.—Levi Kilts, Tribes Hill, N. Y., writes Jan. 28, '68, about our Two-horse Power, and Thresher and Cleaner: "Running wheat twice through my fanning-mill

will not make it as clean as once through your Cleaner. There is no Railway machine, far or near, that can compare with it. One man who helped thresh, said it took more straw through than the Eight-horse Sweep-power which he owned."

Earned \$300 in Five Weeks.—T. J. Temple, Mexico, N. Y., writes Jan. 27, '68, about our Two-horse Power, and Thresher and Cleaner: "I run it five weeks and two days, earned \$300, and sold it for the same it cost me. I threshed for Louis Moxim, of Texas, in this county, commencing at precisely 7 o'clock, A. M., and quit at 12 M.; and in that time threshed 354 bushels of oats, and made three stops in the time to oil up. Again, in one day, I set up in the morning, and threshed two bushels of grass seed, 26½ bushels of wheat, and 486 bushels of oats, all done within ten hours of the same day, earning \$17.68. In one week I threshed thirteen jobs, amounting to 2,140 bushels; 140 bushels of which were wheat and rye, and the remainder oats."

Threshed 635 Bushels in 7 Hours.—A. C. & J. D. Brewer, Knoxboro, N. Y., write Jan. 26, '68, about our Three-horse Power, and Thresher and Cleaner: "At the barn of Chas. Waterman, Oriskany Falls, Oneida county, N. Y., Oct. 9, '67, we threshed 635 bushels of oats in seven hours, 235 bushels after 4 o'clock, P. M."

Earned about \$900 in One Season.—John Bates, Collamer, N. Y., writes Jan. 24, '68, about our Two-horse Power, and Thresher and Cleaner: "The machine works well and gives satisfaction. Have threshed 101 bushels of wheat in four and one-half hours, and have earned, this season, about \$900. Our horses, when put on, were thin in flesh, and they have come off looking good."

Beats the World.—Thos. Ward & Co., Holland, N. Y., write Oct. 20, '67, about our Two-horse Power, and Thresher and Cleaner: "They all say the State-fair Machine can beat the world, and we guess it can."

Earned about \$700 the Past Season.—J. Monroe Bauder, Canastota, N. Y., writes April 13, '67, about our Two-horse Power, and Thresher and Cleaner: "I would not use any other. My threshing amounted to about \$700. It is all you recommend it to be, and no one in purchasing need be afraid of its being otherwise."

Forty-six Bushels of Wheat Per Hour.—G. W. Conklin, Duanesburgh, N. Y., writes March 28, '67, about our Two-horse Power, and Thresher and Cleaner: "We have threshed 46 bushels of wheat in one hour, 226 bushels of oats in three hours, and 550 bushels mixed grain in one day."

The Right Thing in the Right Place.—Wade Buckley, Port Jervis, N.

Y., writes March 25, '67, about our Two-horse Power, and Thresher and Cleaner: "It does its work as well as can be done. The duster is the right thing in the right place. I think you have it as near perfection as it can be."

Ahead of Lever-powers.—E. P. Smith, Wilson, N. Y., writes March 25, '67, about our Two-horse Power: "I can saw wood as fast with it as others that use six or eight horses on a sweep-power."

A Bushel per Minute with One Horse.—Geo. Langdon, Copake Iron Works, N. Y., writes March 18, '67, about our One-horse machine: "I am so well pleased with it that I would not purchase any other if I could get it at one-third the cost. Have threshed 30 bushels of oats in 30 minutes."

Better than Three Others.—Abel C. Brewer & J. Pierce, Solsville, N. Y., write March 17, '67: "We have used three other two-horse machines, and thresh a third more with yours, with greater ease to the team, than either of the others. Have threshed 220 bushels of oats in 3½ hours, and 328 bushels in 5 hours."

Cleaned Better than desired.—Omar J. Decker, Moresville, N. Y., writes Sept. 24, '66, about our Two-horse Power, and Thresher and Cleaner: "I have threshed over 1½ bushels per minute. One of our employers said it did clean grain better than he wanted his grain cleaned. We have made as high as \$20 per day, and have averaged from \$10 to \$15. No grain is left in the straw, and the Cleaner is the best I ever saw."

Earned \$900 in Four Months.—In another letter, March 29, '67, George W. Decker says of the same machine: "I have threshed 214 bushels of oats in 2½ hours. Have earned \$900 from the 20th of August to about the same time in December, and lost about a month in the time."

Came Seven or Eight Miles.—John F. Loomis, Rochester, N. Y., writes Sept. 22, '66, about our machine: "They came seven or eight miles around to get it to do their work."

Best Machine.—F. N. Parish, Churchville, N. Y., writes Sept. 20, '66, about our One-horse Power: "I consider it the best machine on which a horse was ever put."

Pleased with Seed-drill.—Dorr Russell, Cooperstown, N. Y., writes June 7, '66, about Sims' Champion Seed-sower: "I am highly pleased with it, and if my neighbors could not get mine to use, they would want one."

Adapted to Oxen.—Tobias Mickel, Warnerville, N. Y., writes May 21, '66, about our Two-horse Power: "It is well adapted to the use of oxen, and I have

generally used them for several years past, and consider them preferable to horses."

Charles Hallenbeck, Cobleskill, says: "I fully concur in the statements above made by Mr. Mickel in regard to operating Railway-powers with oxen."

Dust-flue Worth \$50.—Geo. Germon, Port Crane, N. Y., writes Dec. 20, '65, about a machine purchased by Mr. Stiner: "He says he would not have the Dust-flue off for \$50 if he could not get another."

Superior to any other Drill.—John S. Schermerhorn and Thomas Vroman, of Cobleskill, N. Y., say Nov. 21, '65: "After having used seed-sowers for several years, we find Sims' Patent Champion Sower and Planter far superior to any other we have used."

Pleased with Fanning-mill.—P. Z. Swart, Middleburgh, N. Y., writes Jan. 23, '65: "I am much pleased with the Fanning-mill I purchased of you last fall. I can clean a bushel of oats per minute, rye at the same rate, and take out all the chaff. It runs easy, cleaus all kinds of grain first rate, including grass seed, and it is my opinion that it cannot be beaten by any other fanning-mill."

Tip-top.—Jerome Hill, Victor, N. Y., writes Jan. 13, '65: "Your Horse-power works tip-top."

Impossible for other Machines.—Reuben Davis, Root, N. Y., writes Dec. 17, '64: "I purchased of Edward Mon-tauny one of your Two-horse Powers, upon which I have used my horses from morning till noon, without stopping, and that, too, without the least injury to my team. This it would have been impossible to do upon an Albany or Schenectady Power, both of which I have heretofore been the owner of."

Two Hundred and Fifty Bushels per Day with One Horse.—A. Y. Thompson, Hobart, N. Y., writes Dec. 8, '64, about our One-horse Power, Thresher, and Separator: "The machine I purchased from you goes beyond my expectation. I can thresh 250 bushels of oats in one day, short as the days are at present. I would not give it for a Two-horse Power, such as I had before. If I could not get another, I would not take \$300 for mine."

Altogether Ahead.—I. F. King, Belfast, N. Y., writes Oct. 17, '64, about our Two-horse Power: "It gives first-rate satisfaction. In fact, it is altogether ahead of any other Power I have seen, and I have seen them all."

Don't Fail to Read this.—From Hon. A. B. Conger, ex-President of New York State Agricultural Society, Haverstraw, N. Y., April 27, '64: "Messrs. R. & M.

Harder, Gents: During the past winter I have had the opportunity of fully testing the merits of your Thresher and Cleaner with the Improved Dust-sucker. It works admirably on the second floor of my barn, transversely, as you remember, to the line of the barn floor, and I am led to consider it entirely adapted to my purposes. I trust the skill you have displayed in the adaptation of your various contrivances for the perfecting of your Machine, will secure to you a large patronage from the farming community."

Works Admirably.—Jared Goodyear, Colliersville, N. Y., writes April 7, '64: "Messrs. R. & M. Harder, Gents: I am highly pleased with the machine purchased of you last winter. The Horse-power is the most perfect running one I have ever used, or witnessed in operation; running very still, steady and powerful. The Thresher and Cleaner does its work, threshing, separating and cleaning, admirably; cleaning the grain suitable for any purpose or use, better than any other machine I ever saw. In short, I consider your entire machine unequaled."

Disinterested Testimony.—M. S. Roberts, Pekin, Niagara county, N. Y., writes April 2, '64: "Messrs. Mallory & Sandford, Gentlemen: You wish my opinion of your Flax-brake. In reply I must say that it is the first machine I ever purchased that answers the recommends, except R. & M. Harder's Horse-power. After I ordered the brake I was repeatedly told I could not run it (your No. 1 brake) with any two-horse Power; some said I might possibly run the brake, but I could not run the scutcher at the same time. But the trial came at last, and I run the brake and scutcher for five hands to scutch, with R. & M. Harder's Two-horse Power, with two light horses that will not weigh 2,000 lbs. together, on ten inches elevation."

The letter last above copied speaks for itself, and can with propriety be called disinterested testimony in favor of our Horse-power, having been written to parties other than ourselves, not in any way interested in our Power, without any knowledge that it would ever come under our observation; and when first seen by us, was found in Messrs. Mallory & Sandford's advertisement in the American Agriculturist.

Exceeded Expectation.—Jesse Owen, Chemung, N. Y., writes December 5, '63: "The Two-horse power, Thresher, and Separator I purchased of you has exceeded my expectation. I have owned and used three different kinds of Railway-powers, and have been familiar with the working of a number of others; but, for ease of team, stillness when in motion, amount of work accomplished in a given time, workmanship, and general appearance of durability, it exceeds any machine with which I am acquainted."

One-quarter less Elevation than any other Power. — Thomas J. Temple, Mexico, N. Y., writes Dec. 3, '63, about our Two-horse Power, and Thresher and Cleaner: "I have threshed 100 bushels of wheat in four hours, and the same quantity of rye in the same length of time. Your machine will do more work, and do it better by twenty per cent., than any other two-horse machine in the State. Some farmers tell me they will give a cent a bushel more for threshing with your machine than with any other."

Free from Noise and Clatter. — Jerome F. Beckwith, McDonough, N. Y., writes Feb. 16, '63, about our Two-horse machine: "We are well pleased with your machine. It works well in every spot and place. Men where we have threshed would look at it and say, 'where does the power come from with so little elevation and horses going so slow?'" We threshed for Coddington Blivin, in Preston, 60 $\frac{1}{2}$ bushels in twelve hours, and for Mr. Skillman, in the Town of German, 71 bushels in three-quarters of an hour. Every one says that machine must do their threshing next year. It is free from the noise and clatter of other machines."

Mr. Beckwith does not mention the kind of grain he threshed. It must have been oats, and at that, is seldom equaled.

Drove every big Machine from the Track. — Benj. F. Rice, Holland, N. Y., writes Feb. 4, '63, in regard to our Two-horse Power, and Thresher and Cleaner: "The machine we bought of you works complete in every sense of the word. We can thresh a quarter more than any W—machine there is here. I saw a man from Collins, who, after seeing our machine work, said he thought it worth two of the W—machines. We drove every big machine from the track where we went; could just whip them to death on cleaning, and finally they could not beat us much in amount."

In another letter, Feb. 24, '64, Mr. Rice says: "We can beat any machine cleaning in the country."

Rapid Threshing. — H. Taylor, Berne, N. Y., writes March 8, '62: "Have threshed for Teunis Arnold 143 bushels of oats in one hour and twenty-five minutes, with the machine bought of you by Flansburg & Hemstead."

Big but True Story. — Geo. Germon, Binghamton, N. Y., writes Feb. 26, '62: "It gives the best satisfaction of any machine that has ever been in these parts."

In another letter, March 10, '62, Mr. Germon says: "I threshed for Michael A. Sheak 225 bushels of oats in three and a half hours, and at another barn on the same farm I threshed 100 bushels in one hour. There was a good many men there to see us, and they said that beat any thing they ever saw for a two-horse machine. This is a big story; I did not intend to say any thing to you about it, but those that saw it said I must let you know it."

Better than any other Railway Machine. — Luther Van Wie, Canajoharie, N. Y., writes Feb. 22, '62: "Your machine will thresh faster, clean better, and do it with greater ease to the team, than any other railway-machine I ever saw, and I am acquainted with most, or all of the leading machines of the State. I have threshed 480 bushels of oats in less than one short day. The horses walk so slow, I would rather have them run it than do some other kinds of farm work."

Feeds the Easiest of any. — John A. Hutson, Delhi, N. Y., writes Feb. 10, '62, about our Two-horse Power, and Thresher and Cleaner: "I could not wish to have any thing run any nicer. The machine feeds the easiest of any I ever saw. We have threshed a mow of oats, and averaged a bushel per minute, and they were cleaned CLEAN."

No Clogging in Wet Grain. — H. S. White & Co., Pillar Point, N. Y., write Oct. 9, '61: "In regard to doing work it can beat any other two-horse machine ever brought into the country. We have threshed a great deal of wet, heavy grain out of stacks, and it works like a charm, no clogging whatever. We have threshed 158 bushels of wheat in a day, out of a stack that was wet through from top to bottom, and we think that is doing a big thing for this year."

Cannot be Beaten. — Joel Stall, Clermont, N. Y., writes Jan. 17, '61: "My machine works well; it cannot be beaten."

In another letter from Mr. Stall, Dec. 19, '61, he says: "I have viewed other machines in the neighborhood, and find there is too much difference in the working of the horses. Our horses can work all day and won't lay a hair, while others that tread the Hudson and Claverack machines have very hard work."

NEW JERSEY.

No changing Horses. — J. L. Grant, Somerville, N. J., writes Jan. 15, '72, about our Two-horse Power, and Thresher and Cleaner: "I am more than satisfied with it. Have threshed 307 bushels of oats in less than five hours, and average 25 or 30 bushels of wheat per hour. There is no machine in this part of the country that can

begin with it. I frequently run half a day without stopping, and without the least injury to team."

Best Ever Exhibited in the State. — John Linn, Newton, N. J., writes Oct. 6, '62, about our Two-horse Pow-

er, and Thresher and Cleaner: "I have orders from two persons, who intend to abandon the use of their threshing-machines which they now have, and procure your Thresher and Cleaner. I had my machine operated on the Fair-ground. It worked admirably, and was pronounced by disinterested parties to be the best machine of the kind ever exhibited in this State."

All Other Machines Driven out of Competition.—In another letter, Jan. 11, '64, Mr. Linn writes: "The Two-horse Power, and Thresher and Cleaner which

I purchased of you last fall, gives entire satisfaction. So smooth and perfect and harmonious is the working of all its parts, that it looks and moves like a thing of life. It will do more work, and do it well, in a given time, and with less labor of the team operating it, than any other machine I ever saw. On account of the perfect manner in which it threshes and cleans all kinds of grain, the machine which I first purchased of you and disposed of, has completely driven out of competition all other machines which have come within the circle of its operation."



PENNSYLVANIA.

Universal Satisfaction.—J. Q. Adams, Berrysburg, Pa., writes Aug. 8, '71, about our Two-horse Power, and Thresher and Cleaner: "I was satisfied you would send me a good machine, but must say it exceeds my expectation. It gives universal satisfaction. Have threshed wheat at the rate of thirty bushels per hour."

Comparative Merits.—Myron Williams, Montrose, Pa., writes March 6, '71: "The Two-horse Power, and Thresher and Cleaner I purchased of you have exceeded my expectation. I have owned and used three different kinds of Railway machines, but yours excels any with which I am acquainted. Have threshed 900 bushels of oats in less than two short days. It works complete in buckwheat. Have a W— & M— Machine now on hand that I want to sell. Have not used it since I got yours, as it is so much harder on horses."

The King Machine.—B. B. Tharp, South Auburn, Pa., writes Feb. 21, '71, about our Two-horse Power, and Thresher and Cleaner: "My horses have gained

every day since I commenced threshing, and my machine is called the King Machine. Men have told me that I threshed faster than the six-horse machines."

Takes the Lead.—H. L. Blowers, Montrose, Pa., writes Jan. 4, '71, about our Two-horse Power, and Thresher and Cleaner: "It is the best Two-horse machine in this county. I would not trade it for any Eight-horse machine I ever saw—in fact I can do about the same amount of work and clean the grain fit for any market. No other machine can get any threshing where mine has been."

Astonishes the People.—George P. Uriah, Stouchsburg, Pa., writes Jan. 12, '70, about our Two-horse Power and Thresher and Cleaner: "It far outruns all expectation had of it. The Power works easy, and it is astonishing to most people how it can produce so much power with two horses."

Proving Durable.—E. W. Michael, Munsey, Pa., writes Feb. 12, '69, about our

Thresher and Cleaner: "I have threshed about 11,000 bushels of grain in four months, running only at times. Our machine is as good as when we commenced, and is far ahead of any in our section."

Great Injustice.—Geo. Hemming, Mehoopany, Pa., writes May 18, '68, about our Two-horse Power, and Thresher and Cleaner: "I am well pleased and satisfied with the machine. To say otherwise would be great injustice to you and your machine, for I think it is the best in this country."

One-fifth Faster than Others.—W. T. Woods, Edinboro, Pa., writes Feb. 3, '68, about our Two-horse Power, and Thresher and Cleaner: "It cleans first rate, and threshes about one bushel in five faster than any other machine I ever used."

Works well in Clover and Timothy.—Daniel Lichy and S. J. Miller, Summit Mills, Pa., write Jan. 13, '68, about our Two-horse Power, and Thresher and Cleaner: "We like it, and it is all O. K. It cleans wheat, rye, barley and oats, ready for mill or market, and does its work well in threshing clover and timothy. It is easy work to thresh from 200 to 300 bushels of wheat per day, and oats from 300 to 500 bushels."

Threshed Rye where Six-horse Machines could not.—Dunham & Cutter, North East, Pa., write April 12, '67, about our Two-horse Power, and Thresher and Cleaner: "We have run three different kinds of machines, and none of them begin with yours. It cleans all kinds of grain first rate. We threshed rye where a six-horse machine could not."

Threshed 410 Bushels in half a Day.—Jas. D. Cummings, Liberty Corners, Pa., writes March 15, '67, about our Three-horse Thresher and Cleaner: "We have threshed for J. H. Scott 56 bushels of rye in fifty-six minutes, and for Mr. Hard 410 bushels of oats in one afternoon, including the setting of the machine, and cleaned it very nice."

The Machine.—Amos K. Bowers, Lancaster, Pa., writes Sept. 21, '66, about our Two-horse Power, and Thresher and Cleaner: "We can beat any machine threshing and cleaning around here. Farmers are satisfied it is THE machine."

Completely Relieved of the Dust.—A. B. Shipman, Muncy, Pa., writes Sept. 15, '65: "My thresherman is well pleased with the Dust-flue. The feeder and team are completely relieved of the dust."

Threshed for Farmers owning other Machines.—A. B. Shipman, Muncy, Pa., writes Jan. 9, '65, about our Two-horse Power, and Thresher and

Cleaner: "I have been using your machine for the last two seasons, and it has been giving good satisfaction. Have threshed for a number of our farmers who have machines of their own. I do not think it hard on a team to thresh every day, for this we do, month in and month out. The machine cleans first rate, fit for mill or market."

Faster than Six-horse Machines.—Frank Morrow, Sugar Run, Pa., writes Jan. 8, '65: "The Harder machine is the machine for me. I can start my team in the morning and run them until noon without stopping, and not have them too warm to feed or water; while one hour running on the other Powers would make them too warm for either. I have threshed 100 bushels of oats in one hour. I can thresh faster on 21 inches elevation with your machine, than I could on 26 inches elevation of the E—. Some of the men that I threshed for said the straw came through faster than through the six-horse power machines."

So Much Difference.—Luther H. Shumway, Wellsboro, Pa., writes Dec. 23, '64, about our Two-horse Power, and Thresher and Cleaner: "We like our machine first rate. It cannot be beaten in these parts. I did not suppose there could be so much difference in railway Horse-powers."

Earned \$500 in Three Months.—McCarter & Curavo, Harbor Creek, Pa., write Dec. 12, '64, about our Two-horse Power, and Thresher and Cleaner: "We have threshed 300 bushels of oats in four hours, 102 bushels of barley in one and a quarter hour, and 200 bushels of wheat per day. We have earned \$500 in three months, and as for cleaning, it cannot be beaten. We get two cents per bushel more than any other machine, and the farmers beg of us to come and finish their threshing that other machines have commenced. This may seem a big story, but it is nevertheless true."

None half Equal to the Harder.—Wm. McClean, Jamestown, Pa., writes Dec. 9, '64: "My hired man has threshed of oats, without intending to do any thing more than usual, one bushel per minute for two hours, and without knowing he was doing it; but others, without his knowledge, were timing him. The other railway machines in our section of country are the E—, but none of them was ever half equal to the Harder machine."

Perfect Operating Machine.—Efferger Clinefelter, Dewart, Pa., writes Dec. 3, '64: "The Two-horse Power, and Thresher and Cleaner purchased of you operate perfectly throughout. I can say that, in every point that constitutes a good machine, it excels any other I have ever seen."

The Best in the County.—Jacob Berst, Erie, Pa., writes Jan. 1, '64: "The

Two-horse Power, and Thresher and Cleaner I purchased of you is the best in the county. I have threshed 30 bushels of wheat and 70 bushels of oats per hour, with the Power elevated only 20 inches. It cleans the grain better than a fanning-mill. The team works easily, and the thresher runs nicely."

The Dust Sucker makes a Finish.—Edward Perry, North East, Pa., writes Feb. 8, '63, about our Two-horse Power, and Thresher and Cleaner: "It does good work, runs easily for the team, and gives good satisfaction to my employers. Although grain is very poor, I have threshed 25 bushels of wheat per hour. The Dust-sucker just makes a finish to the machine."

Perfectly easy for the Horses.—Alvin T. Dunbar, Alba, Pa., writes Jan. 27, '62, about our Two-horse Power, and Thresher and Cleaner: "It will thresh and clean more grain and do it with more ease to the team than any other railway-machine I know of. I find there is a great difference between yours and others in amount of work. I have threshed 288 bushels of oats and loaded the machine before noon of the same day; and if there had been more grain to thresh, it would have exceeded 300 bushels in the half day. I have averaged 400 bushels per day."

In another letter, Jan. 25, '64, Mr. Dunbar says: "I have threshed 224 bushels of wheat in one short day."



OHIO.

Two Bushels a Minute.—John R. Evans, Greensburgh, Ohio, writes Feb. 21, '69, about our Two-horse Power, and Thresher and Cleaner: "We have threshed 62 bushels of oats in thirty minutes, 250 bushels in one afternoon, and set up and took down our machine."

As good as Recommended.—T. Leonard, Columbus, Ohio, writes April 12, '67, about our Thresher and Cleaner: "It is as good as recommended. Will thresh as fast as they can feed it. The Dust-flue is one of the greatest improvements that can be made."

Three Hundred Bushels in Five Hours and Five Minutes.—Wm. Stuart, Salem, Ohio, writes Feb. 16, '67, about our Two-horse Power, and Thresher and Cleaner: "I have threshed 300 bushels of oats in five hours and five minutes, including stoppages, or 70 bushels per hour without stopping."

More than Expected.—Jas. Jeffrey, Homerville, Ohio, writes Oct. 6, '65: "I have tried the Power and find it all and more than I expected."

Two Horses equal to Four.—F. H. Wright, Talmadge, Ohio, writes Dec. 24, '64, about our Two-horse Power: "I am well suited with the Power which I purchased of you. It does with ease the work of four horses on a sweep-power, and that too, with no liability to get out of order."

Not half as Hard as a Sweep-power.—E. W. Williams, Windham, Ohio, writes Nov. 28, '64: "The Power I purchased of you I think greatly superior to any Horse-power in use about here. I use it for cutting feed, with one horse, and can cut as fast as one man can get the feed away from the cutter. For sawing with a drag-saw, I use two horses, and can saw as fast as with a four-horse sweep-power, and

it is not half as hard for the horses. With a circular-saw, I can, with two horses and a slight elevation, saw all the wood that four men can get to the saw; and, with three inches elevation and one horse, I can grind apples as fast as one man can shovel them into the hopper. I have now used the Power nearly two years and it has worked well in every place that I have tried it. It runs smoothly and steadily, with much less elevation than any other that I have seen; and as for durability, I would not deduct one cent from the first cost of the machine were I wishing to sell it, and prices no higher than two years ago. I have written nothing to please you, but

the statements above made are merely justice to the machine. It is fully up to the recommendation you gave it."

Stands Unequaled. — Nathan Hall, Harrisville, Ohio, writes Jan. 1, '64, about our Two-horse Power, and Thresher and Cleaner: "I have owned threshing machines for more than twenty years, and have been acquainted with a number of different patents; but in view of the saving and cleaning of grain, and the amount of work performed with a given amount of power, I consider your machine stands unequaled."

MICHIGAN.

From Michigan State Agricultural College. — Prof. M. Miles, State Ag'l. College, Lansing, Mich., writes Jan. 1, '72: "For several years past we have used your Horse-power on the College farm, in sawing wood, cutting feed, pulping turnips and threshing, with the most satisfactory results. As a convenient and easy mode of obtaining the maximum force of the horses, it cannot well be surpassed. Your Thresher and Cleaner does its work rapidly and in the best possible manner. We have expended nothing in repairs, which speaks well for the workmanship and prospective durability of the machines."

The same old Story. — Harrison Hutchins, Allegan, Mich., writes March 18, '70, about our Two-horse Power, and Thresher and Cleaner: "I am well pleased with the machine you sent me. Can thresh 25 bushels of wheat per hour."

Merits not over-estimated. — E. M. Rogers, Grand Rapids, Mich., writes Jan. 24, '70, about our machine: "We are perfectly satisfied with both Power and Cleaner, and think their merits have not been over-estimated."

Agreeably Disappointed. — J. C. Rogers, Grand Rapids, Mich., writes Jan. 10, '68, about our Two-horse Power: "We made our first trial of it yesterday, and were agreeably disappointed in the amount of elevation required to run an Empire Feed-cutter No. 3, being barely sufficient to clear the band-wheel from the barn floor. Judging from the workmanship, we shall not be sold in buying from you."

All Right. — Job Burnap, Smithville, Mich., writes Dec. 26, '65, about our Two-horse Machine: "The machine is all right. It goes far better than I anticipated. Would rather have it than a ten-horse power."

Every thing Just as it Should Be. — Moses C. Beatys, Lexington, Mich.,

writes Dec. 17, '63, about our Two-horse Power, and Thresher and Cleaner: "After setting up the machine I sent for an experienced thresher, one who has traveled with a machine ever since he was a boy. He speaks in the highest terms of the machine; being well put together, good timber, runs easily and smoothly, cleans the grain so well, saves the chaff so nicely, and in fact every thing just as it should be."

Threshing 140 to 150 Bushels of Wheat in an Afternoon. — Jos. Gamble, Watrousville, Mich., writes Dec. 22, '62, about our Two-horse Power, and Thresher and Cleaner: "My team weighs only 2,000 lbs. Have threshed 240 bushels of wheat in a day, 150 bushels in five hours, and 50 bushels of it in just one and a half hour. It has been a common thing with us to thresh 140 to 150 bushels of wheat in an afternoon. The machine has the name of doing the nicest work, cleaning the best of any machine that has ever run here. We have never yet broken a single tooth in threshing among any amount of roots and some stones."

All that Could be Desired. — J. L. Mead, Lansing, Mich., writes Nov. 17, '62, about our Two-horse Power, and Thresher and Cleaner: "It is all that could be expected or desired. I am highly pleased with it. It runs as smoothly and as nicely as a top."

Profitable Way of Threshing. — In another letter, March 16, '64, Mr. Mead says: "No machine can do the work better. The small number of men, and saving of team in running it, make a large item on the profit side."

Was far Better than Expected. — Peter Mumford, East Saginaw, Mich., writes Nov. 10, '62, in regard to our Two-horse Power, and Thresher and Cleaner: "Are highly pleased with the machine, it being far better than was expected."

INDIANA.

Strong opposition Overcome.—J. E. Wymond, Aurora, Ind., writes Oct. 29, '70, about our Two-horse Power, and Thresher and Cleaner: "My opposition when I started was very strong, but now the scale is greatly changed. The Eight-horse

machine men are completely whipped out, cleared out, and have run away from Har- der's New York Clipper, as it is often called. I threshed the largest crop of wheat in the county, for Mr. Nevitt, which three or four large machines tried to get."

ILLINOIS.

Couldn't see it, but Knew it was There.—Wm. O. Selts, Sycamore, Ill., writes Feb. 15, '66, about our Two-horse Power, and Thresher and Cleaner: "After trying my machine, I asked a man, who, on account of prejudice against two-horse machines, had refused to let me have his threshing, what he thought now about getting power enough with two horses to thresh. He answered, he did not see where the power came from, but he knew it was there. The first day I threshed 104 bushels of flax. Large machines called 60 bushels a day's work. I cannot find where any

ten-horse machine has threshed more in one day than I have."

Strong, Durable and Workmanlike.—D. T. Westervelt, Prairie City, Ill., writes Feb. 23, '65: "The Two-horse Endless-chain Threshing Machine I purchased of you, gives the best of satisfaction. The Thresher can be run at greater speed, with less elevation of Power and slower travel of team, than any other machine that I am acquainted with. It is strongly put together, durable, and got up in a work- manlike manner."

WISCONSIN.

Big Machine Driven out of Sight.—C. Simons, Oconto, Wis., writes Oct. 4, '69, about our Two-horse Power, and Thresher and Cleaner: "The machine gives good satisfaction. I have driven an eight-horse machine out of sight. Those that I have threshed for say they will never have the big machine again."

The Machine for Western Farmers.—F. F. Farnham and Thomas Smith, Columbus, Wis., write Jan. 23, '64: "We have been using your Two-horse Railway-power, and Thresher and Cleaner, since last fall. We find them exactly the thing. The Thresher and Cleaner works to perfection, and threshes faster than we anticipated. The Horse-power is so much easier for the horses than we expected, that we are highly pleased with it. We do not hesitate in

saying that any farmer, when he once knows the advantage of your machines, will not be without one. We thresh with three men and two horses about twenty bushels of wheat per hour, and do it easily for both men and team. The dust is entirely conducted away from the feeder, so that it is not dirty work at all. We predict a large sale for them in the West as soon as their advantages are known."

Does not Think it can be Beaten.—Theodore Colburn, Depere, Wis., writes Dec. 7, '63: "In regard to the machine, I am well pleased with it. It does the work well, and turns out grain faster than any other two-horse machine I am acquainted with. I do not think it can be beaten by any two-horse-power machine."

IOWA.

Power and Saw Work Nicely.—L. D. Randall, Dubuque, Iowa, writes April 15, '64, about our Two-horse Power, and Circular-saw Machine: "The machine has come to hand. I have tried the Power and Saw, and they work very nicely."

Works to a Charm Threshing and Cleaning Flax.—Moses A. Westcott, Iowa City, Iowa, writes Aug. 23, '63, about our Two-horse Power, and Thresher and Cleaner: "My machine works to a charm. I have been threshing flax, and it threshes and cleans it right. It can thresh from 50 to 70 bushels in a day and clean it tip-top, while eight-horse machines thresh only from 75 to 100 bushels, and it has all to be cleaned over after them."

Mr. Westcott wrote us again Sept. 28, '63, as follows: "It is the best cleaner in this county; no big machine can hold a candle to it."

Thinks he can Thresh 400 Bushels of Wheat per Day.—Hon. C. F. Clarkson, Eldora, Iowa, writes April 8, '63, about our Two-horse Power, and Thresher and Cleaner: "I am satisfied with the machine. Have threshed 152 bushels in six hours, and now I believe I can thresh 400 bushels of wheat per day. Two men have already informed me that they want machines of your make, but I am no agent. Your machine is in my barn, where it will probably stay as long as I live."

KANSAS.

Green Horses and Greener Hands.—Hon. N. T. Stephens, Lawrence, Kansas, writes Feb. 15, '69, about our Two-horse Power, and Thresher and Cleaner: "It has operated as well as I could ask, and fully up to your recommend. With a pair of green horses and a set of greener hands, we, the first day, threshed oats at the rate of 20 bushels in twenty-five minutes; threshed 99 bushels of barley in four hours, and the barley very light at that. It cleans better than I expected, and wastes less grain than any other machine I ever saw. All worked well."

Threshing at Half Cost.—Joseph Hayton, Troy, Kansas, writes Feb. 27, '66, about our Two-horse Power, and Thresher and Cleaner: "I can thresh my grain at about one-half the cost in comparison to the large lever-power machines."

Just the thing Wanted.—J. W. Sponable, Gardner, Kansas, writes Feb. 27, '65, about our Two-horse Power: "It works well and quite easily for the team, and it is just the thing I want for many uses."

MISSOURI.

Cheapest Machine for the Farmer.—Samuel Shibley, Shibley's Point, Mo., writes March 3, '70, about our Two-horse Power, and Thresher and Cleaner: "I have threshed for about fifty persons, and they are all well satisfied. Have threshed 40 bushels of wheat in one hour, and 105 bushels in four hours, some of the latter being

very wet. I did not thresh any grain in barns; it was all in stacks. Your machine will do almost the work of an eight-horse lever-power, take the season through, and it is a great deal cheaper for the farmer, as it does not take near so many hands to run it."

KENTUCKY.

Sweepstakes Machine Beaten.—W. M. Winlock, Hiserville, Ky., writes Dec. 29, '70, about our Two-horse Power, and Thresher and Cleaner: "It is the best machine we have ever had in this country. Have threshed 30 bushels of wheat per hour, and more than double that amount of oats. We set our machine one day, in sight of a Ten-horse Sweepstakes machine. They made a great deal of fun of the 'little thing,' but when night came the 'little thing' had threshed 13 bushels the most."

attention. The effect of introducing them has already shown itself in the stimulus given to wheat culture. The people find they can get out their wheat with so little cost, and so expeditiously and clean, that they are encouraged to sow a greater breadth of land. This is without the least flattery."

Greatly Admired.—H. Carr White, Versailles, Ky., writes Feb. 18, '69, about our Two-horse Power, and Thresher and Cleaner: "Your machine has proved satisfactory, and has been greatly admired. I prefer it to any Eight-horse Thresher I ever saw."

Threshed in Open Field.—Rev. John C. Bayless, Grayson, Ky., writes Feb. 20, '69, about our Two-horse Power, and Thresher and Cleaner: "I have found your machines all they were represented to be. They are made of good material, and well put together. All our threshing was done in the open field. With any thing like fair grain and fair weather, I can thresh and clean at least 250 bushels of wheat, or 500 bushels of oats, with my two horses. I do not think the horses found treading as hard as pulling an ordinary load; nor did we have any special trouble in breaking them in. They came out of the entire season looking fully as well as before. All the farmers for whom we threshed have spoken in high terms of the machine. They are a novelty here, and attracted considerable

Far Superior to other Machines.—C. I. Spilman, Bryantsville, Ky., writes Feb. 13, '68, about our Two-horse Power, and Thresher and Cleaner: "I am entirely satisfied with the amount and manner in which the machine does its work. It is far superior to any railway machine that has been in this section, or at least any that I have ever seen, for amount of business, ease of team, and manner of work. The wheat in this part of the State was a very short crop in every thing but straw. My average was from 125 to 150 bushels per day. The same amount of straw would frequently have yielded 200 or 250 bushels per day."

MARYLAND.

Disbelievers Convinced.—P. H. Haviland, Bryantown, Md., writes July 16, '69, about our Two-horse Power, and Thresher and Cleaner: "The machine beats any thing in this part of the country. All that have seen it operate, say they never saw

a Cleaner that would clean the grain so well, and but few will believe that two horses can do so much, till they see it work. We threshed 50 bushels wheat in one hour and a half, and think we could have threshed one-quarter more if it had been bound."

From an Experienced Operator.—William Musser, Germantown, Md., writes Feb. 16, '69, about our Two-horse Power, and Thresher and Cleaner: "Your machine is all you represent it to be. We would not exchange it for any we have tried or seen. For the last twenty-five years I have been

in the habit of hiring machines; therefore have had a variety. The last before I purchased yours, was the Eight-horse Geiser machine. Not one of the number used threshes clean like the Harder. We thresh at the rate of from 400 to 450 bushels of oats a day."

DELAWARE.

Bishop Scott's Testimony.—Rev. Bishop Scott, Odessa, Del., writes Feb. 14, '70, about our Two-horse machine: "The machine bought of you last summer,

proved itself to be all you represented. It is admirable, and does its work rapidly and well. I wish you the success your work so richly merits."

VIRGINIA.

Superseding all others.—Theron Thompson, Alexandria, Va., writes Jan. 2, '71, about our Two-horse Power, and Thresher and Cleaner: "It works admirably, and notwithstanding the prejudice that existed in this vicinity against Railway machines, I think your machine will supersede all other kinds, as it is greatly admired by all who see it work."

Mr. Thompson further says, Oct. 18, '71: "We have threshed for several farmers who have sweep-machines of their own."

Perfect satisfaction.—Geo. W. Palmer, Saltville, Va., writes Jan. 25, '70, about our Two-horse Power, and Thresher and Cleaner: "Your machine gives perfect satisfaction."

Delighted with his Observation.—Wm. C. Conrad, Sandy Bottom, Va., writes July 3, '69: "I have just finished getting out 250 bushels of wheat with your Thresher and Cleaner, and overlooked its operations personally for the first time, and must say I am delighted with the manner in which it does its work."

The Pocket Machine Top of the Heap.—G. G. & E. S. Ely, Arcola, Va.,

wrote Jan. 18, '68, about our Three-horse Power, and Thresher and Cleaner: "We are well pleased with its operation. Have threshed but one entire day on the same kind of grain, and that was wheat. The thermometer was at 105°. We threshed 210 bushels, and it was cleaned very nicely. We repeatedly threshed 30 to 36 bushels of wheat an hour. Our average of oats was 60 bushels per hour. The wheat where we threshed 210 bushels, yielded only about ten bushels per acre. Have threshed as much per day as the eight-horse machines, and more than some. Our machine, at first, was laughed at, and called the 'Pocket Machine,' and several such names; but it was not long before it won for itself an enviable reputation, and stood at the top of the heap, both for the amount and manner of its work. Our horses were poor when we began, but in two weeks they commenced gaining, and when we finished, they were in good condition—some said fat. There is no machine that stands so high in the estimation of the people here as this machine. Its merits are conceded by those who have not seen it. It is known as '*The Machine.*'"

WEST VIRGINIA.

A Good Bargain.—Wm. A. Watson, Bushes Mills, W. Va., writes May 22, '69, about our Two-horse Power, and Thresher and Cleaner: "It gives entire satisfaction,

and I regard it as the best machine I ever saw. It threshes clean and fast; indeed, it does better than I expected it could do. It is one of the best bargains I ever made."

NORTH CAROLINA.

Saves the Grain.—N. J. Neal, Pittsboro, N. C., writes July 25, '71, about our Thresher and Cleaner: "Every person that has seen it work says it is the best

he ever saw. It threshes well, separates well, saves grain the best of any machine I ever saw, and cleans it perfectly."

SOUTH CAROLINA.

Run by Steam-engine.—S. H. Spencer, Columbia, S. C., writes Feb. 13, '69, about our Two-horse Thresher and Cleaner: "Your Thresher, in my opinion, is one of the best now in use. It was run

by one of Wood & Mann's Four-horse-power Engines; and in one day it cleaned 425 bushels of wheat. It is far superior in finish to any in this State."

TENNESSEE.

Original Cost Quickly Paid.—Samuel Perkins, Triune, Tenn., writes Sept. 9, '69, about our Two-horse Power, and Thresher and Cleaner: "It has threshed 5,200 bushels of wheat and rye, and 1,250 of oats and barley, thus paying the orig-

inal cost and the expense of running it. It threshes easily from 200 to 300 bushels of wheat or rye per day, and double the amount of oats, cleaning as well as any separator I have ever seen."

VERMONT.

Dust-flue a great Improvement.—E. B. Collins, North Ferrisburgh, Vt., writes Jan. 4, '72, about our Two-horse Power, and Thresher and Cleaner: "The machine gives perfect satisfaction, runs easily, threshes fast and cleans well. I can thresh 100 bushels of unbound oats in an hour. It takes the lead among the machines in this vicinity. I would use no other. The Dust-flue is a great improvement."

Carried off the Prize.—J. A. La Rose, Burlington, Vt., writes Dec. '70, about our Two-horse Power, and Thresher and Cleaner: "I exhibited my machine at our State Fair at Burlington, and a Diploma was awarded it by the State Agricultural Society."

Threshermen's Verdict.—J. G. Paul, Groton, Vt., writes March 23, '70, about our Two-horse Power, and Thresher and Cleaner: "The machine has given good satisfaction wherever it has been, and is called by threshing machine men *the best*."

Gold Medal Machine.—T. L. Kinney, South Hero, Vt., writes Feb. 14, '70: "I am satisfied that the Gold-medal Threshing-

machine will thresh one-third more grain, with the same weight of team and the same elevation of Power, than any other machine used in this part of the country."

Earned \$14 in Five Hours.—S. W. Mead, Shelburn, Vt., writes Jan. 21, '70, about our Two-horse Power, and Thresher and Cleaner: "It is complete in every respect, and far exceeds my expectation. I could get two cents a bushel more for threshing than other machines. Mr. Homer Goorich threshed in five hours 280 bushels of oats with it, for which he received \$14. It is no uncommon thing to thresh and clean 60 bushels of oats in an hour. For clover and timothy it is equally good."

Better than all the Rest.—Nelson Hilliker, Alburgh Springs, Vt., writes Jan. 30, '65: "The Two-horse Power, and Thresher and Cleaner I purchased of you are the best I have ever used or seen. It cleans as well as any fanning-mill, and what is better than all the rest, the farmers are so well pleased with its work that they say, they will not have any other machines in their barns, if they can get one of this kind to do their work."

MASSACHUSETTS.

Entirely Satisfied.—Elizur Smith, Lee, Mass., writes Dec. 24, '70, about our Two-horse Power, and Thresher and Cleaner: "The machine works to my entire satisfaction."

Found at last.—H. L. Rowe, North Egremont, Mass., writes Feb. 8, '70: "I have been trying for the past two years to find a threshing-machine, and, after

visiting all the principal manufactories in York State, I did not succeed in finding one to suit me until I saw and purchased yours, which I consider as near perfection as can be. It is certainly the easiest machine to manage, both for man and beast, that I ever saw. It threshes very fast, and every part is strong and durable."

CONNECTICUT.

Grinding Apples with One Ox.—Ralph Dickinson, Berlin, Conn., writes Dec. 28, '70, about our Two-horse Power: "I am well satisfied in every particular. It exceeds my highest expectation. With one ox on the Power, I can grind from 75 to 80 bushels of apples per hour."

Expectation Realized.—L. A. Bunce, Berlin, Conn., writes Aug. 31, '69: "The Horse-power I purchased of you last season answers my most sanguine expectations. It runs like a top."

Far Ahead of all Others.—J. B. Palmer, Jewett City, Conn., writes Feb.

11, '68, about our Two-horse Power, and Thresher and Cleaner: "I have been a close observer for some time, of the different machines in use, and I can say yours stands far ahead of all others I have ever seen. I have threshed 80 bushels of oats in an hour by the watch, and can easily thresh 500 bushels a day. It is easily run with two horses of 1,000 pounds each."

Earned over \$1,000 in 13 Weeks.—John A. Fitch, Jewett City, Conn., writes Jan. 29, '68, about our Two-horse Power, and Thresher and Cleaner: "It gives the best satisfaction of any in this section of country. I have threshed 245 bushels of oats in less than five hours;

65 bushels in forty-five minutes. There is no other machine that can begin to clean the grain like yours. We run it about 13 weeks the past fall, and earned over \$1,000. The second week we run we threshed over 1,900 bushels, and set up twice every day."

My Power Runs like a Top.—Chas. E. Quick, Bridgeport, Conn., writes Sept.

4, '65: "My Power runs like a top, and gives good satisfaction."

Delivered Exact to Contract.—Chas. Dawbarn, Stanwix, Conn., writes Dec. 20, '64: "Having tested the honor of your firm by a pre-payment for machinery, afterward delivered exact to contract, I have great pleasure in testifying to the superiority of your machines."

RHODE ISLAND.

Sawing a Cord of Wood in 7 1-2 Minutes.—J. W. Sherman, Newport, R. I., writes Feb. 11, '69, about our Two-horse Power: "It is all I can desire. I can saw one cord of wood in 7½ minutes by the watch—that is, a quarter of a cord in four cuts."

Pronounced the Best.—L. D. Richmond, Westerly, R. I., writes March 28, '67, about our Two-horse Power, and Thresher and Cleaner: "I do not hesitate to pronounce it the best with which I am acquainted. It is easier for the horses, threshing a larger amount of grain, cleaning it better than any other machine I ever saw."

MAINE

Great Satisfaction.—Messrs. Deming & Sons, Calais, Maine, write Sept. 16, '65: "Those we sold last season, (referring to

Horse-powers, and Threshers and Cleaners), have given great satisfaction, and they say cannot be beaten."

CALIFORNIA.

Saving of 20 to 30 Per Cent.—H. M. White, Tule River, Cal., writes Jan. 14, '72, about our Thresher and Cleaner: "I am well satisfied with your machine—found it to work like a charm. It does its work rapidly and well, running easily and cleaning in the best possible manner, and just fills the bill. We thresh 40 bushels of barley per hour, and do it with the least help of any machine in the State. There is a saving of 20 to 30 per cent. over the best of them. I would not give mine today for one of Pitt's Eight-horse-power Threshers and Cleaners."

Best Two-horse Machine in California.—S. H. Olmstead, Santa Barbara, Cal., writes March 12, '66: "The Two-horse Threshing-machine you sent me has found its way to the opposite side of the Continent, arriving in good order, and has given good satisfaction. It is a better machine and does better work than I had anticipated. I would as soon have my team work on it as at the plow. Believe it to be the best two-horse machine in California. With five hands and two horses, I can thresh 300 bushels of barley in ten hours, and do it with ease."

OREGON.

Transported 16,000 Miles.—W. M. & D. Sherer, Peoria, Oregon, write Jan. 1, '69: "The machine arrived at Portland in good order. We have tried it thoroughly, and found it all you recommended it to be; running smoothly and is easy for the team, threshing and separating clean from the straw and chaff, cleaning equal to any separator we ever saw, and we have seen the best kinds there are now in use. Have operated Pitt's machines for several seasons. Would not exchange ours for any of the lever power machines in the State. It does its work with less expense. We had no trouble in setting up and starting it. The

first day, we started from home with it, went 2½ miles, set it up, threshed 190 bushels of wheat, the work done in excellent condition, and moved the machine to another place that same evening. Our horses had never been worked on a railway-machine; therefore we had them to break in that same day. We have threshed 419 bushels of wheat in one day; also 600 bushels of oats and 58 bushels of wheat another day. One afternoon we threshed 244 bushels of wheat, and another, 242. We have averaged, the entire season, 305 bushels per day, four-fifths of the amount being wheat. Pretty good threshing for a Two-horse Machine."

UTAH.

The Machine for this Territory.—Chas. Westover, St. George, Utah, writes Aug. 7 and 22, '69, about our Two-horse Power, and Thresher and Cleaner: "I am perfectly satisfied with the machine. Had

no trouble in setting up and starting it, and find it will do all and more than you represented. It will do as much work as many large machines, and does its work well; in fact it is a machine that recom-

mends itself wherever it goes. The people for whom I have threshed say it is the very machine for this country. The Dust-flue I would not part with for any consideration. I have no more use for

sponges about the machine. Am well satisfied that your machines will come into general use all over this Territory, notwithstanding the great variety of machines that have been introduced into this country."

BRITISH PROVINCES.

The Biggest Name in Town.—Benj. Markett, Inkerman, C. W., writes Feb. 14, '68, about our Two-horse Power, and Thresher and Cleaner: "It gives good satisfaction, has the biggest name of any machine in town, and is the easiest for the team."

Letter from a Manufacturer.—John Watson, Ayr Foundry, Ayr, C. W., writes March 18, '67: "I have been extensively engaged in the manufacture of Agricultural implements for several years, farming at the same time a property of my own, and though there exists an unfounded prejudice against tread-powers in this section, I had become so thoroughly convinced of their superiority, that I went over into New York State purposely to procure a first rate one, although I manufacture several different kinds myself. I called at several establishments and examined Powers, each of which was represented as vastly superior to all others. In fact, I got so thoroughly indoctrinated into their merits, that you may probably recollect when I reached your establishment I asked you, perhaps somewhat abruptly, to point out to me not what the general merits of your Power were, but the advantages you claimed for it over all others. You did so, and the advantages appeared so patent to me, and recommended themselves so strongly, that I purchased one of yours.

I have much pleasure in stating, that after two years' use, I consider it in every

respect the best Power I have ever seen—and I have seen and examined most of those made in the United States and Canada. It has given me the most unbounded satisfaction, so much so, that if I wanted another, I should go direct to your establishment for it, in full confidence that I would get a Power that could not be surpassed for general efficiency, ease, and good workmanship and material."

Threshes a Third more than any Other.—Duncan G. McDonald, Summerville, C. W., writes: "The machine I bought of you will thresh a third more than any other two-horse machine I ever saw work in this country."

Best Imported from the United States.—Messrs. D. R. & C. F. Eaton, of Cornwallis, Nova Scotia, write May 31, '64: "We had no difficulty in setting up and starting the machine to our entire satisfaction; and it is due to you here to state, that after having well tested your machine, we are of opinion that of the many that have been built here and imported from the U. S., the equal of your Two-horse Power, and Thresher and Cleaner has never yet been seen in Nova Scotia."

In another letter, Jan. 3, '65; Messrs. Eatons say: "We never anticipated getting so many good qualities in one machine. It does its work rapidly and neatly, and is very easy for the horses, and besides, its workmanship is perfect."

EDITORIAL REMARKS.

World's Fair.—R. & M. Harder: The acknowledged superiority of the Agricultural machinery made by the above firm, is giving them a world-wide notoriety. The Schoharie Union says: "It will be gratifying to our citizens, jealous of Schoharie county enterprise and mechanical skill, to learn that the United States Agent of the great World Exhibition at Paris, to be opened next summer, has addressed Messrs. R. & M. Harder of Cobleskill, a pressing invitation to send one of their Horse-powers, and Threshers and Cleaners to that exhibition, as they are regarded the best in the United States, and probably in the world. Farmers, this is something worth while."—[Oneonta Herald, Jan. 23, '67.]

Country Gentleman.—In reply to an inquiry about a threshing-machine, the Country Gentleman of August 23, '66, says: R. & M. Harder, Cobleskill, make an excellent machine, and you had better consult them."

Dust-flue.—The Country Gentleman of October 6, '64, in speaking of our Dust-flue, says: "Over the concave is a Flue as long as the cylinder, and about six inches wide, through which a current of air moves when the cylinder is in motion, which sucks all the dust from before the cylinder, and carries it out with the chaff and straw."

Premium at Ohio State Fair, 1863.—The National Agriculturist, speaking of the Ohio State Fair, Sept., 1863, says: "For an Endless-chain Horse-Power, Thresher and Separator, Messrs. R. & M. Harder, Cobleskill, N. Y., received the first premium. Their machine is a model of good workmanship, design and convenience, well worthy all claimed for it. These gentlemen are among the best manufacturers in New York, and our farmers will not regret making their acquaintance."

New York State Premium, 1862.—The Lockport Journal of Oct. 6, '62, says: "Harder's Threshing-machine took the First Premium at the State Fair. His competitors were Wheeler, Emery, Westinghouse, and others. A machine of the same manufacture was exhibited at our County Fair, and elicited warm commendation."

Justly Celebrated.—The Schoharie Republican of Oct. 9, '62, says: "We are gratified to learn that Messrs. R. & M. Harder of Cobleskill, N. Y., received the First Premium on their justly celebrated Horse-power at the State Fair held at Rochester last week. This shows that the superior merits of their machines are appreciated abroad as well as at home."

REPORTS OF COMMITTEES.

Susquehanna Valley Fair, 1861.—Your Committee beg leave to report, that no mechanical ingenuity came under their observation more entitled to notice, than the Two-horse-power Threshing-machine, exhibited by R. & M. Harder of Cobleskill, N. Y. With much pleasure we most cheerfully recommend to the farmers of the Susquehanna Valley, this machine, comprising all the advantages claimed by the proprietors, viz.: producing more power with less elevation, and doing business more rapidly with a slow walk of the team, than any other of our acquaintance. The Cleaner performed admirably, without loss of grain, and leaving it as clean as from a good fanning-mill."

Trial with Three other Machines.
Report of the committee on threshing at the Fair of the Schoharie County S. G. Association, Oct. 30 and 31, 1861.—Your Committee beg leave to report, that four different Railway Horse-powers, and Threshers and Cleaners, came under their observation, embracing the Wheeler, Emery, Harvey, and Harder machines, and that quite a spirited trial of the same took place, resulting in favor of the Harder Machine, doing its work in the shortest time and most satisfactory manner. We therefore award them the Premium. In fact, this machine did its work with very great ease to the team, and cleaned quite equal to any fanning-mill, without any waste of

grain in either chaff or straw. In view of the fact that a threshing-machine is an implement of much importance, we feel it our duty to further say, that we are fully satisfied that the entire Harder machine, embracing Horse-power and Cleaner, stands without an equal, and as such, we unhesitatingly recommend it to the farmers of this and other counties. M. N. LaRue, Henry Tibbits, F. Hiller, Committee.

Elected Many Compliments.—We, the undersigned, Committee on Discretionary articles, at the Montgomery County Fair, held at Fonda, October 9th and 10th, '61, certify that we examined and saw in operation an Endless-chain Railway Horse-power, and Thresher and Cleaner, manufactured by Messrs R. & M. Harder, Cobleskill, N. Y., and recommend that a diploma be awarded for superior merit; and further report, that the operation of both Horse-power and Cleaner was unequalled by anything we have seen, being driven with great ease to the team, and the grain cleaned better than we have ever seen by any other Thresher and Cleaner, being quite equal, if not better, than by any fanning-mill, without any waste of grain in chaff or straw, and as such, would recommend it to our farmers. John A. Davis, Fonda. G. C. Simpson, Fonda. G. S. Schuyler, Glen.

This machine, on exhibition on the Fair-ground, attracted general attention and elicited many compliments from the farmers present.—[Fonda Democrat.]

We have hundreds of other testimonials which might be given, but the foregoing, together with our warranty, which so fully and amply protects purchasers, seem to render it unnecessary to add any thing more to convince the most skeptical of the superiority of our machines.

WARRANTY.

All machines are warranted to be satisfactory to the purchaser, and for the purpose of trial, may be used two days, within fifteen days after reaching their destination or the point to which they are shipped. If upon trial of a machine, it is not satisfactory, the purchaser must immediately give me notice thereof, and allow me reasonable time, not however to exceed fifteen days after receipt of the notice, to go myself, or send an agent, if I choose so to do, to remedy the difficulty or dissatisfaction; after the expiration of which time, if the purchaser is not suited, he shall at once return the machine, free of charge, to me, at Cobleskill, N. Y., or to any other place that I may designate, not involving greater expense; when, whatever money or notes, if any, have been given, will be returned.

EARLY CORRESPONDENCE AND ORDERS.

Persons designing to purchase machines are advised that **it is important to them, to open correspondence and give their orders early**, though shipment of the machines may not be desired immediately, instead of waiting until nearly or quite the commencement of the threshing season, at which time, **orders pour in upon us from all quarters at once**, when we are frequently obliged to disappoint many who delay their orders until the last day.

Both early writing and orders for early shipments are urged, from the fact that not unfrequently **months instead of weeks, are consumed** in settling details and transportation of machines, especially in remote sections; **great delay often occurring during transit.**

Orders should always be signed by the party or parties giving the same, **each writing plainly, his or their full name**, instead of simply giving the initials.

Give the name of the place to which the goods are to be shipped, and if it be a Railroad station, give the **name of the Railroad** on which the station is situated; also give shipping direction if any particular route, or line of transportation, is desired.

When no shipping directions are given, or, when the same are not sufficiently full and clear to enable us to direct the goods properly, according to our judgment, we mark and ship in the manner and by the route deemed by us to be **best and most advantageous to the purchaser**—**always exercising great care in regard to shipments.**

We do not ship Horse-powers nor Thresher and Cleaners by Canal, as they will not pass under the bridges except on heavily loaded, or low decked boats, which usually cannot be procured without great delay.

Always give the name of your County as well as that of your Post-office and State, in each letter sent me. This will enable me to name your county when directing my reply, and will tend to prevent the miscarrying of letters, and the delay caused thereby.

By carefully observing the foregoing directions, much time will be saved and annoyance obviated.

MEASUREMENTS AND DIRECTIONS

From which Truck-wagons may be Constructed, or Prepared, for Carrying the Harder Machines.

Width of Three-horse Power, from outside to outside of sills,.... 6 feet 9 inches.

do Two-horse do , do do do ,.... 4 do 7 do

do One-horse do , do do do ,.... 2 do 7 do

Length of sills of all widths of Horse-powers above given,.....10 do 2 do

In order to carry any of the above Powers without taking the Gear-wheel and Band-wheel off, the axle of the wagon must be of such length as to make the distance between the spokes of the wheels opposite each other, at or near the hubs, 15 inches greater than the width above given, of the Power. In other words, to ascertain the necessary distance between the spokes in opposite wheels, at or near the hubs, add 15 inches to the width above given as the measurement from outside to outside of sills of Powers.

By the foregoing, it will be seen that the full width of each of the different Powers above mentioned, when the Gear-wheel and Band-wheel are attached to the same, is as follows, viz.:

One-horse Power,..... 3 feet 10 inches.

Two-horse do ,..... 5 do 10 do .

Three-horse do ,..... 8 do.

The sills of the Cleaner lap on the outside of the sills of the Thresher, as may be seen in the cut of the Thresher and Cleaner elsewhere in this catalogue, making the **28-inch-cylinder machine 3 feet 6 3-4 inches wide** from outside to outside of sills, at discharge end of machine, and only 3 feet wide at the front end.

The **32-inch-cylinder Thresher and Cleaner is 4 1-2 inches wider than the 28-inch-cylinder machine**

The entire length of the sills for either Thresher and Cleaner, is **8 1-2 feet**.

By the foregoing, it will be seen that the stakes in hind bolster, if one is used on hind axle, must be 3 feet $6\frac{3}{4}$ inches apart for the 28-inch-cylinder machine, and 3 feet $11\frac{1}{4}$ inches apart for the 32-inch-cylinder machine, and that the axles must not be more than about 8 feet apart. They need not necessarily be over 7 or $7\frac{1}{2}$ feet apart, neither should the stakes in hind bolster be more than 3 or 4 inches long.

Ordinary lumber wagons are frequently used for carrying these Threshers and Cleaners, and the only alteration necessary is a new and longer bolster on hind axle, in place of the old one. This may easily be made by the farmer himself, or user of the machine, with the aid of a few tools.

To further obviate the necessity of inquiry in regard to the **manner of arranging or constructing wagons for the moving of Railway Horse-powers**, (which inquiries it is impossible for us to make a business of answering by letter), would state that various kinds and forms are adopted by the different users of these machines—some having a reach, and a bolster on the hind axle, while others have neither. **We prefer the use of a reach, but no bolster on the hind axle.**

The end of the Power to be elevated should always be placed on the hind axle, or bolster, if one is used, and fastened thereon by dropping bolts through holes in sills and corresponding holes to be made in the axle, or bolster, **and left thereon while operating**. If a reach is used, the other or lower end of the Power, which is always placed upon the forward bolster when the Power is to be moved, need not in any way be fastened thereto; **there should, however, be stakes of about 3 inches in length in the bolster, outside of the sills of the Power**, to prevent the same from moving sidewise.

In cases where no reach is used, the lower end of the Power must be bolted to the forward bolster, and the same removed with the Power, from the forward axle, when setting it for operation.

A bolster is always used on the forward axle, allowing the latter to turn or move under the former, when turning and cramping. If a reach is employed, the use of which we advise, it must pass through both axles at their centers, and fasten forward by king-bolt passing through bolster, reach and axle, and at the other end by dropping a bolt through axle and reach. The mortise in forward axle should be made sufficiently long to give ample room for play of reach when cramping.

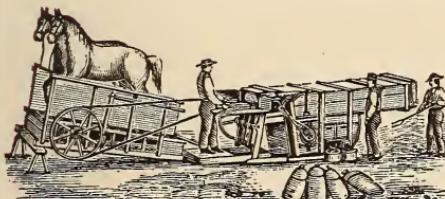
In lowering from the wagon the end of the Power to be let down, place two scantlings or planks under it, letting one end of them rest on the barn floor or ground and the other end on the forward bolster of the wagon; then block the forward wheels, remove the bolt from the reach in hind axle, and by running back the hind wheels of the wagon and allowing the bridge of the Power to turn, or slide, on the scantlings, or planks, **the end of the Power to be lowered can be easily and gently let down by two persons without jar or injury.**

To re-load the lower end of the Power, raise it sufficiently to run one end of the scantlings, or planks, under the bridge, letting the other end rest on the forward bolster of the wagon; then by turning the Band-wheel of the Power in the proper direction to run the bridge up the scantlings, or planks, and with a little aid at the hind wheels of the wagon, **the Power is easily re-loaded.**

Wagons are frequently prepared for carrying these Powers, by using the wheels of ordinary lumber wagons and simply making new axles, forward bolster, reach and tongue, which is generally done by farmers themselves, or persons using the machine, thereby avoiding a large portion of the expense of procuring a new wagon.

DIRECTIONS

For Setting up and Running Harder's Horse-power, and Thresher and Cleaner.



FIRST.—*Elevate Horse-power from 22 to 28 inches, according to weight of team and kind of threshing to be done. See that it does not sit winding; whether it does or not, can be ascertained by looking across top rails; also be sure that one side is no higher than the other, else the bridge will crowd against the lower side, and prevent its running with the freedom and ease that*

it otherwise would.

SECOND.—*Fasten Pinion-wheel, No. 2, being the small cast-iron wheel with cogs outside, to face-plate on end of smaller shaft; and Gear-wheel, No. 1, which is the large cast-iron wheel with cogs inside, to face-plate on larger shaft. Fasten Band-wheel, No. 6, to face-plate on end of smaller shaft, opposite the pinion-wheel. In fastening these wheels, be sure to have them fit snugly to the face-plates.*

THIRD.—*If team is short, put forward cross-bar or rail, at third hole from end, in side-rails.*

FOURTH.—*Fasten Shaker-wheel, No. 29, 31 inches in diameter, to double-crank shaker-shaft in Thresher. This is done with set-screw.*

FIFTH.—*Put one of the round projections, at one end of clutch, No. 80, with spring attached, into one of the holes in hub on cylinder-shaft, letting the other end of clutch extend over shaft and toward feet-table, the spring resting upon shoulder extending from hub, and end of clutch dropping into notch of hub. Then place 5½-inch Cylinder-pulley, on shaft, in such manner that the projection inside of rim of it, will catch end of clutch when turning pulley in proper direction for threshing.*

SIXTH.—*Put 7-inch Pulley, No. 30, on long end of shaker-shaft, outside of shaker-wheel, if said wheel is used on same side of machine; 4½-inch Pulley, No. 31, on long end of fan-shaft; 3½-inch Pulley, No. 32, on short end of fan-shaft; 5½-inch Pulley, No. 33, on Stationary Arm, No. 34; and Bell-crank, No. 36, between the two Holders, No. 38, screwed to rear post on left side of machine when standing in front of cylinder.*

SEVENTH.—*Put long 1¾-inch Belt, on pulleys No. 30 and 31; short 1¾-inch Belt, on pulleys No. 32 and 33; fasten Iron Rod to pulley No. 33, and hook it in bell-crank, No. 36; also, hook Iron running from Shoe containing sieves, in bell-crank.*

EIGHTH.—*Put Sieve No. 1, in upper groove, for all kinds of grain.*

“ “ 2, in middle groove, for Oats, and Oats and Peas.

“ “ 3, in middle groove, for Wheat, and Rye.

“ “ 4, in middle groove, for Buckwheat, and Barley. Put Screen, or Screen-board, in lower groove, for all kinds of grain.

NINTH.—Fasten Grain-spout to irons on shoe, with nuts.

TENTH.—Slide Tailing-spout between grooved slats on bottom of Shoe, and fasten clasp to staple in side of shoe.

ELEVENTH.—In order to set the Thresher and Cleaner in range with the Horse-power, and the proper distance from it, apply the belt to band-wheel of Power and cylinder-pulley of Thresher, and by running them slowly, and observing the action of the belt, it can readily be seen which way the Thresher needs moving. Set it level, and when properly adjusted fasten with iron hooks or dogs, to barn floor, so that it cannot move. If set on the ground, fasten down by driving into the ground a wooden hook, at or near each end of the sills, letting the top of the hook reach over the sills.

TWELFTH.—For greatest shake of sieves, hook long rod in inside hole, and place hook running from shoe, in outside hole, in bell-crank, and for least movement of sieves, reverse the rod and hook.

THIRTEENTH.—Regulate the wind by moving blinds at ends of fan-drum, according to amount required. For cleaning wheat, buckwheat, and barley, the blinds should be open, nearly, and sometimes quite, to their full extent. Less wind is required for rye, oats, and oats and peas. In all cases, use all the wind necessary for cleaning in the best possible manner without blowing grain over the sieves.

FOURTEENTH.—The Concave, containing the upper spikes, should be raised and lowered, according to kind and condition of grain to be threshed. This is done by turning the nuts on bolts running through ends of concave, up or down.

FIFTEENTH.—For separating main belt when it rubs together on top of shaker-wheel, bolt cast-iron lever with arm, No. 41, that holds Lignumvitæ-pulley, to timbers on which feed-table rests.

SIXTEENTH.—To set Thresher and Cleaner on either side of Horse-power, change shaker-wheel and cylinder-pulley, if necessary, to side desired. To change shaker-wheel, remove pulley No. 30, from long end of shaker-shaft, and replace it, after shaker-wheel is changed.

SEVENTEENTH.—For threshing short, dry straw with light grain, such as oats, elevate discharge end of Cleaner by putting a board or blocks under rear end of sills, from 1 to 2 inches thick, but not of sufficient thickness to prevent straw from working off the separator.

EIGHTEENTH.—For threshing Clover, take out Grain-conveyor, underneath separator. This is done by removing pitman operating conveyor, and the two cross-timbers and braces below conveyor; disconnecting the end of conveyor nearest cylinder, from its suspending rods, at hand holes covered by plates No. 40 and 40A, in side boards, and disconnecting the other end from arms extending from conveyor, through slots or openings in side boards. Then take out conveyor, and replace the two cross-timbers and braces.

NINETEENTH.—When starting new machines, first use turpentine instead of oil, at all places mentioned below, and if the track-wheels, No. 11, are gummed to the rods so that they do not roll freely, be sure to loosen them perfectly, with turpentine; then run the bridge a few minutes; after which, give it a good, careful oiling before putting on the horses. Grease the cogs in gear-wheel and pinion, with lard or other soft grease, before starting machine, and occasionally thereafter.

TWENTIETH.—Watch the boxes, especially at first, of Horse-power shafts, cylinder-shaft and shaker-shaft, to see whether they heat; if they do, it may be necessary to loosen the caps a little, and give time to cool. Always keep them well oiled.

TWENTY-FIRST.—To tighten Bridge, loosen the two nuts, one on each side of the Power, on sides of slotted timbers supporting the two large shafts, then turn the two large nuts at end of Power, giving each nut the same number of turns; after which fasten nuts on sides of slotted timbers.

TWENTY-SECOND.—Do not neglect to keep the following parts of the machine well oiled, with good oil, viz.: Horse-power shafts, including the one at lower end of Power, for which purpose there are holes under oil-hole covers No. 78; between links, and links and wheels; notches in reels in each end of the bridge; cylinder-shaft boxes, and pulley; shaker-shaft bearings, and pitmans; jointed-couplings at back end of pitmans; fan-shaft; stationary arm, No. 34, and bell-crank, No. 36; both rods that hook in bell-crank, at each end; and suspending rods on which separator and conveyor hang, at both ends.

N. B.—By strictly observing these directions, the working and durability of the machine will be greatly increased.

DIRECTIONS

For Setting-up and Running Harder's Horse-power, Thresher, and Separator.

FIRST.—*Elevate Horse-power from 18 to 22 inches, according to weight of team and kind of threshing to be done. See that it does not sit winding; whether it does or not, can be ascertained by looking across top rails; also be sure that one side is no higher than the other, else the bridge will crowd against the lower side and prevent its running with the freedom and ease that it otherwise would.*

SECOND.—*Fasten Pinion-wheel, No. 2, being the small cast-iron wheel with cogs outside, to face-plate on end of smaller shaft; and Gear-wheel, No. 1, which is the large cast-iron wheel with cogs inside, to face-plate on larger shaft. Fasten Band-wheel, No. 6, to face-plate on end of smaller shaft, opposite the pinion-wheel. In fastening these wheels, be sure to have them fit snugly to the face-plates.*

THIRD.—*If team is short, put forward cross-bar or rail, at third hole from end, in side rails.*

FOURTH.—*Fasten Shaker-wheel, No. 46, to crank-shaft, with set-screw.*

FIFTH.—*Put one of the round projections, at one end of clutch, No. 79, with spring attached, into one of the holes in hub on cylinder-shaft, letting the other end of clutch extend over shaft and toward feed-table, the spring resting upon shoulder extending from hub, and end of clutch dropping into notch of hub. Then place 5-inch cylinder-pulley, on shaft, in such manner that the projection inside of rim of it, will catch end of clutch when turning pulley in proper direction for threshing.*

SIXTH.—*To set the Thresher in range with the Horse-power, and the proper distance from it, apply the belt to band-wheel of Power and cylinder-pulley of Thresher, and by running them slowly, and observing the action of the belt, it can readily be seen which way the Thresher needs moving. Set it level, and when properly adjusted, fasten with iron hooks or dogs, to barn floor, so that it cannot move.*

SEVENTH.—*In setting the Separator, fasten standard to discharge end of separator, with small iron rod. Hang front end to Thresher, by hitching the chains to hooks on Thresher top; then fasten pitman to slat on under side of separator, and see that the separator ranges with Thresher, and is not winding.*

EIGHTH.—*The Concave, containing the upper spikes, should be raised and lowered according to kind and condition of grain to be threshed. This is done by turning the nuts on bolts running through ends of concave, up or down.*

NINTH.—*When starting new machines, first use turpentine instead of oil, at all places mentioned below, and if the track wheels, No. 11, are gummed to the rods so that they do not roll freely, be sure to loosen them perfectly, with turpentine; then run the bridge a few minutes; after which give it a good, careful oiling before putting on the horses. Grease the cogs in gear-wheel and pinion, with lard or other soft grease, before starting machine, and occasionally thereafter.*

TENTH.—*Watch the boxes, especially at first, of Horse-power shafts, cylinder-shaft and shaker-shaft, to see whether they heat; if they do, it may be necessary to loosen the caps a little, and give time to cool. Always keep them well oiled.*

ELEVENTH.—*To tighten bridge, loosen the two nuts, one on each side of Power, on sides of slotted timbers supporting the two large shafts, then turn the two large nuts at end of Power, giving each nut the same number of turns; after which fasten the nuts on sides of slotted timbers.*

TWELFTH.—*Do not neglect to keep the following parts of the machine well oiled, with good oil, viz.: Horse-power shafts, including the one at lower end of Power, for which purpose there are holes under oil-hole covers No. 78; between links, and links and wheels; notches in reels in each end of the bridge; cylinder-shaft boxes, and pulley; shaker-shaft bearings, and pitman.*

N. B.—*By strictly observing these directions, the working and durability of the machine will be greatly increased.*

DIRECTIONS

For Breaking Horses for use on Railway-powers.

FIRST.—A good bridge should be built, of the same width as the bridge of the Power, and placed at the lower end of the same, over which to lead the horses into the Power.

SECOND.—The horses should have shoes on to prevent slipping; but the calks should not be sharp, or they will cut and wear the bridge unnecessarily fast. Calks of medium length are not so liable to catch between the bridge-planks as longer ones.

THIRD.—They should be harnessed, and fastened to front cross-rail with straps or ropes passing through hames or collars and around said cross-rail, and the traces hitched to hooks in lower end of side-rails.

FOURTH.—The fastenings in front and the traces, should be of such length as to allow the horses to step easily, and move slightly backward or forward, but not long enough to permit them to move any considerable distance, as they usually do at first, if not properly secured.

FIFTH.—Fasten one end of a rope to ring on side-rail, then pass the other end over horse next said rail, and through ring in middle-rail, fastening the rope to said ring, thence over the other horse, and fasten to ring in side-rail opposite the one first mentioned. Adjust the rope so as not to press or bear upon the horses' backs when they step, but not of sufficient length to allow them to rise up or jump, in case they become frightened.

SIXTH.—It is well to have two men, with whom the horses are acquainted, stand at their heads when starting the bridge, and hold them apart by the bits, so as to prevent them from crowding, and as much as possible to hold them from jerking backward or forward.

SEVENTH.—One man should remain at the brake until the horses are thoroughly broken, letting the bridge move gently at first, and gradually increase until a proper speed for threshing is obtained, unless the horses become too much frightened, in which case the brake should be applied, the bridge stopped, the horses patted, and not scolded. In this way they will be made to feel that they are not to be harmed.

EIGHTH.—The less noise, and the more kind and gentle the treatment of the horses, the less danger of their becoming frightened.

NINTH.—After horses become thoroughly accustomed to working on Powers of this kind, they are not usually fastened in front, except by halter, nor are the traces hitched; and it is not unfrequently the case that no harness is used thereafter.

TENTH.—When difficulty is apprehended with wild, or large horses, put on only one horse at a time, until each has acquired the proper step, and become somewhat acquainted with the movement of the bridge, before putting on both.

ELEVENTH.—Great care should be used in leading the horses upon the bridge, especially with the one that goes on last, to avoid jumping suddenly against the other, which sometimes causes them to commence crowding.

TWELFTH.—The greatest difficulty to be apprehended is the crowding of horses; to prevent or stop which, place a thick board, eight or ten inches wide, flatwise, between the horses, fastening one end to the upper cross-rail, and letting the lower end be held by one or more persons as may be necessary, pressing it against the horse that crowds the most. This will generally have the desired effect.

Price List of Machines.

Three-horse Power, Patent Improved Thresher and Cleaner with 32-inch Cylinder and 40-inch Separator, Oil-can, Belt-punch and three Wrenches, without main belt,	\$475 00
Two-horse Power, Patent Improved Thresher and Cleaner with 28-inch Cylinder and 36-inch Separator, Oil-can, Belt-punch and three Wrenches, without main belt,	410 00
Two-horse Power, 30-inch-cylinder Thresher, and Separator, without Cleaner, Oil-can and two Wrenches, without belt,.....	270 00
One-horse Power, 26-inch-cylinder Thresher, and Separator, without Cleaner, Oil-can and two Wrenches, without belt,	235 00

Patent Improved Thresher and Cleaner with 32-inch Cylinder and 40-inch Separator, Oil-can, Wrench and Belt-punch, without large belt,	\$245 00
Patent Improved Thresher and Cleaner with 28-inch Cylinder and 36-inch Separator, Oil-can, Wrench and Belt-punch, without large belt,.....	220 00
Three-horse Power, Oil-can and Wrench, without belt,	235 00
Two-horse Power, Oil-can and Wrench, without belt,.....	195 00
One-horse Power, Oil-can and Wrench, without belt,	165 00
Thresher with 30-inch Cylinder, and Separator, without belt,.....	80 00
Thresher with 26-inch Cylinder, and Separator, without belt,.....	75 00
Thresher with 30-inch Cylinder,	65 00
Thresher with 26-inch Cylinder,.....	60 00
Separator, 40 inches wide,.....	15 00
Separator, 36 inches wide,.....	15 00
Circular-saw Machine with 24-inch Saw,	75 00
Circular-saw Machine with 22-inch Saw,	72 00
Sims' Patent Champion Seed-sower and Planter, for three rows,.....	40 00
Sims' Patent Champion Seed-sower and Planter, for one row,.....	25 00
Improved Bevel Fanning-mill,.....	40 00
Truck-wagon for Two-horse Power,	85 00
Truck-wagon for Thresher and Cleaner,.....	80 00
Patent Dust-flue,	10 00

☞ Leather, and Rubber Belting, 3½ and 4 inches wide, kept constantly on hand, and any desired quantity furnished when ordered, at manufacturers' prices.

☞ At the foregoing prices, we deliver goods on board Albany & Susquehanna Railroad cars, at this place, 45 miles west of Albany, and 97 miles east of Binghamton.

☞ ALL ORDERS FROM STRANGERS SHOULD BE ACCCOMPANIED WITH SATISFACTORY REFERENCE, and a brief statement of the circumstances and responsibility of the party giving the same, or cash; and such will be filled with promptness and fidelity.

TERMS.—Cash, or Approved Notes, with Interest.

Price List of Extras, for Repairs, &c.

CASTINGS FOR HORSE-POWERS.

No.		Price.
1.	Gear-wheel,	\$6 50
2.	Pinion-wheel,	2 25
3.	Reel-head, large, each,	2 75
4.	do , small, each,	2 25
5.	Face-plates, each,	1 50
6.	Band-wheel center, inside,.....	1 50
6 A.	do do , outside,.....	50
7.	Boxes for Gear-wheel shaft, lower part, each,.....	20
7 A.	do do do , upper do , do ,.....	25
8.	do Pinion-wheel do , lower do , do ,.....	20
8 A.	do do do , upper do , do ,.....	25

No.		Price.
9.	Track, upper piece of upper right, 30 inches long,.....	\$0 50
9 A.	do , middle do do do , 22½ do ,.....	40
9 B.	do , lower do do do , 35¾ do ,.....	60
9 C.	do , upper do do left , 30 do ,.....	50
9 D.	do , middle do do do , 22½ do ,.....	40
9 E.	do , lower do do do , 35¾ do ,.....	60
10.	do , do straight pieces, right and left, 27½ inches long, each,.....	40
10 A.	do , do crooked piece, right,.....	40
10 B.	do , do do left ,.....	40
11.	Track-wheels, each,.....	40
12.	Links for <i>two-horse</i> and <i>three-horse-powers</i> , each,.....	50
13.	Washers for between links, each,	25
14.	Guide-plates or wear-irons, each,	20
14 A.	do do , do ,	20
14 B.	Guide-plate or wear-iron,.....	15
14 C.	do do ,.....	15
14 D.	do do ,.....	15
14 E.	do do ,.....	15
15.	Links for <i>one-horse-power</i> , each,	40
16.	Boxes for <i>three-horse-power</i> gear-wheel shaft, lower part, each,	20
16 A.	do do do do , upper do , do ,	25
17.	Wheels for center of <i>three-horse-power</i> bridge, each,	75

CASTINGS FOR THRESHERS AND CLEANERS.

18.	Cylinder-heads, each,	1 50
19.	Cylinder-head plates, each,.....	25
20.	Cylinder-shaft boxes, lower part, each,	30
20 A.	do do , upper do , do ,	20
21.	do hubs, 4½ inches diameter, including set-screw, each, ...	1 50
22.	Cylinder-pulley, 6 inches diameter, for old style Threshers and Cleaners,	2 25
23.	do , 5½ do , do improved do do ,	2 25
24.	Guard, fastened to right side-board, in front of Cylinder,	20
24 A.	do , do left do , do do ,	20
25.	Lever for right end of concave,.....	75
25 A.	do left do do ,	75
26.	Shaker-shaft, double-crank, for 28-inch-cylinder Thresher and Cleaner,	7 00
27.	do , do , 32-inch-cylinder do do ,	7 50
28.	Shaker-wheel center with arms, 29 inches diameter, including set-screw, for old style Threshers and Cleaners,.....	2 00
29.	Shaker-wheel center with arms, 29 inches diameter, including set-screw, for improved Threshers and Cleaners,.....	2 50
30.	Shaker-shaft pulley, 7 inches diameter,.....	2 25
31.	Fan-shaft do , 4½ do ,	1 50
32.	do do , 3¾ do ,	1 25
33.	Stationary-arm pulley, 5½ do ,	1 50
34.	do for 5½-inch pulley,.....	75
35.	Bell-crank for shaking shoe in old style Cleaners,.....	60
36.	do do improved do ,	75

No.		Price.
37.	Bell-crank holders for old style Cleaners, each,	\$0 20
38.	do do improved do , do ,	25
40.	Plate for covering hand-hole in right side of Cleaners,	20
40 A.	do do do left do do ,	20
41.	Lignumvitæ-pulley holder for separating main belt,	1 50

CASTINGS FOR THRESHERS WITHOUT CLEANERS.

Cylinder-heads, same as No. 18, each,	.....	1 50
Cylinder-head plates, same as No. 19, each,	.....	25
Cylinder-shaft boxes, lower part, same as No. 20, each,	.....	30
do do upper do , do 20 A, each,	.....	20
Guard in front of cylinder, right, same as No. 24,	.....	20
do do do , left, do 24 A,	.....	20
Lever for right end of concave,	do 25,	75
do left do do , do 25 A,	.....	75
42. Cylinder-shaft hubs, 3½ inches diameter, including set-screw, each,	....	1 25
43. Cylinder-pulley, 5 inches diameter,.....	.....	2 00
44. Shaker-shaft, single crank, 44½ inches long, for 30-inch-cylinder Thresher,	.....	6 00
44 A. do , do , 40 do , 26-inch-cylinder do ,	.....	5 50
do , do , 23½ do , 30-inch-cylinder do ,	.....	3 00
do , do , 19½ do , 26-inch-cylinder do ,	.....	2 75
46. Shaker-wheel center with arms, 25½ inches diameter, including set-screw, .....	.....	2 00

CASTINGS FOR CIRCULAR-SAW MACHINES.

47. Balance-wheel, including wrought-iron tire,	.....	10 00
48. Boxes for saw-shaft, lower part, each,	.....	40
48 A. do do , upper do , do ,	.....	40
49. Belt-pulley, 7 inches diameter, including set-screw,	.....	2 75
50. Collar for rear side of saw,	.....	2 00
50 A. do front do do ,	.....	2 00
51. Wheels for under table, each,	.....	40
52. Guides to direct table, each,	.....	20

CASTINGS FOR FANNING-MILLS.

53. Gear-wheel,	.....	2 00
54. Pinion-wheel,	.....	25
55. Box for gear-shaft, large,	.....	40
55 A. do do , small,	.....	40
56. Boxes for pinion-shaft, each,	.....	40
57. Shaking-rod wheel,	.....	75
58. Crank for turning gear-wheel,	.....	75
Bell-crank for shaking shoe, same as No. 36,	.....	75
do holders, same as No. 38, each,	.....	25

MALLEABLE IRONS FOR HORSE-POWERS.

No.		Price.
75.	Brake-handle holders, each,	\$0 20
76.	Trace-hooks, short, each,	15
77.	do , long, each,	20
78.	Covers for oil-holes at lower-reel, each,	10
110.	Plates for band-wheel rim, each,	25

MALLEABLE IRONS FOR THRESHERS AND CLEANERS.

0.	Hand-hole plate catches, each,	10
00.	Covers for oil-holes, each,	10
39.	Holders for feed-board hooks No. 105, each,	20
80.	Clutch with spring, for 5 $\frac{1}{2}$ -inch and 6-inch cylinder-pulleys,	40
Jointed-coupling: { Part No. 81, for attaching to separator, or grain conveyor,		1 00
} Part No. 81 A, for attaching to pitmans, each,		1 00
82.	Jointed-coupling plate for under side of conveyor tongue,	25
83 R.	Supporting-brace for right side of grain-conveyor, at discharge end,	60
83 L.	do do left do do , do do , do , do ,	60
84.	Guides for grain-conveyor, with crooked arms, each,	25
85.	do do , straight do , do , do ,	25
86.	Suspension-arms for grain-conveyor, each,	25
87.	do do separator, each,	25
88.	Fork-head arms, each,	25
89.	do gudgeons with square ends, each,	20
90.	do do round do , do , do ,	20
91.	do gudgeon-plates in sides of separator, each,	20
92.	Plates with hubs, for holding fork-head arms, each,	25
93.	Suspension-rod plates for front end of separator, each,	20
94.	Washer-plates on separator, each,	15
95.	Brackets on separator, each,	15
96.	Washer-plates for suspension-rods, on posts, each,	15
97.	do do do , side-boards, each,	15
98 R.	Hook for shoe-suspender,	15
98 L.	do do ,	15
99.	Shoe-holder on top of fan-drum,	25
100.	Grain-spout holders, each,	25
101.	Clasp for fastening tailing-spout,	15
102.	Bail for discharge end of grain-spout,	50
103.	Plate for upper do do ,	40
104.	Plates in ends of side-boards, each,	20
105.	Feed-board hooks, each,	20
106.	Dust-flue fasteners, each,	20

MALLEABLE IRONS FOR THRESHERS WITHOUT CLEANERS.

Holders for feed-board hooks No. 105, same as No. 39, each,	20
79. Clutch with spring, for 5-inch cylinder-pulley,	40
Feed-board hooks, same as No. 105, each,	20
Dust-flue fasteners, do 106, each,	20

MISCELLANEOUS MALLEABLE IRONS.

	Price.
107. Wrench, 7½ inches long,.....	\$0 25
108. do , 10 do ,	35
109. Saw-guard protector for saw machines,.....	40

MISCELLANEOUS EXTRAS.

Spikes for cylinder, or concave, each,	11
Coppers for cylinder boxes, each,	10
Shaft for 28-inch cylinder,	8 00
do 32-inch do ,	9 00
Cylinder, 28 inches long, with shaft and hubs, complete,	32 50
do , 32 do , do do ,	35 00
Concave for 28-inch-cylinder Thresher,.....	10 00
do 32-inch-cylinder do ,	11 00
Wrought-iron shaker-shaft with two bearings, for old style Threshers and Cleaners,	4 50
Shaker-wheel, 27½ inches diameter, for Threshers without Cleaners,.....	6 00
do , 31 do , old style Threshers and Cleaners,.....	6 50
do , 31 do , improved do do ,	7 00
Separator for 28-inch-cylinder Thresher and Cleaner,	20 00
do 32-inch-cylinder do do ,	22 00
Grain-conveyor for 28-inch-cylinder Thresher and Cleaner,.....	10 00
do do 32-inch-cylinder do do ,	12 00
Shoe, containing sieves, for 28-inch-cylinder Thresher and Cleaner,	7 50
do , do , 32-inch-cylinder do do ,	8 00
Sieves for 28-inch-cylinder Thresher and Cleaner, each,	2 25
do 32-inch-cylinder do do do ,	2 50
Grain-spout for either Thresher and Cleaner,	1 75
Tailing-spout do do do ,	1 25
Pitman for either separator, or grain-conveyor,.....	1 25
Lignumvitæ-pulley for separating main belt,.....	1 75
Band-wheel for Horse-powers,	9 00
Bridge-planks for one-horse Power, each,.....	35
do two-horse do , do ,	50
do three-horse do , do ,	90
Cross-rods for one-horse-power bridge, each,.....	50
do two-horse-power do , do ,	75
do three-horse-power do , do ,	1 00
Jacks for raising Horse-powers, pair,.....	6 00

The foregoing list of extras, is a complete enumeration of the malleable and other castings, as well as several other articles, used in the construction of our machines, and, although the price of each piece of casting is given, many of them are, however, seldom, or never, needed for repairs.

In ordering extras, always give the *full name and description* of each article wanted, same as in foregoing price-list, together with the number set opposite each,

the name of the place to which the goods are to be sent, stating whether by EXPRESS OR RAILROAD, the former being preferable for small packages, and the only way of forwarding goods, C. O. D.; and accompany the order with cash, post-office money-order, or draft on New York, for the amount of the goods ordered.

Orders sent in accordance with these instructions will receive prompt attention.

DIRECTIONS

For Removing and Replacing Horse-power Bridge-planks.

FIRST.—Remove the four bolts from each side of Power, running through the outside posts and the lower, beveled side-boards, one on each side, and then remove said side-boards, having dowel-pins in upper edge, from their places.

SECOND.—Raise one side of the bridge from the upper track, which is done by placing across the timber to which said track is fastened, a small bar, letting one end reach between the track-wheels and under a link, and the other end extend outward, serving the purpose of a lever.

THIRD.—If the plank to be removed is one having *short* tenons, slip two of the track-wheels from their rods, one at each side of the plank; then remove the link from the end of the plank to be taken out, but not from the ends of its rods. When this is done, the end of the plank from which the link has been removed, is loose, and by slightly raising it, the opposite end is easily drawn from its link without slipping any wheels or links from the rods at opposite end.

FOURTH.—If the plank to be removed is one having *long* tenons, four wheels and two links must be slipped from the rods; then remove the link from the end of the plank to be taken out, but not from the ends of its rods, and the plank displaced as in the other case.

FIFTH.—In order to insert a plank, put it in place of the one removed, and then replace the links, wheels and boards, and the Power is ready for use.

ILLUSTRATED AND DESCRIPTIVE
CATALOGUE

OF

THRESHING AND OTHER

AGRICULTURAL

MACHINES AND IMPLEMENTS,



Manufactured at the

Empire Agricultural Works,

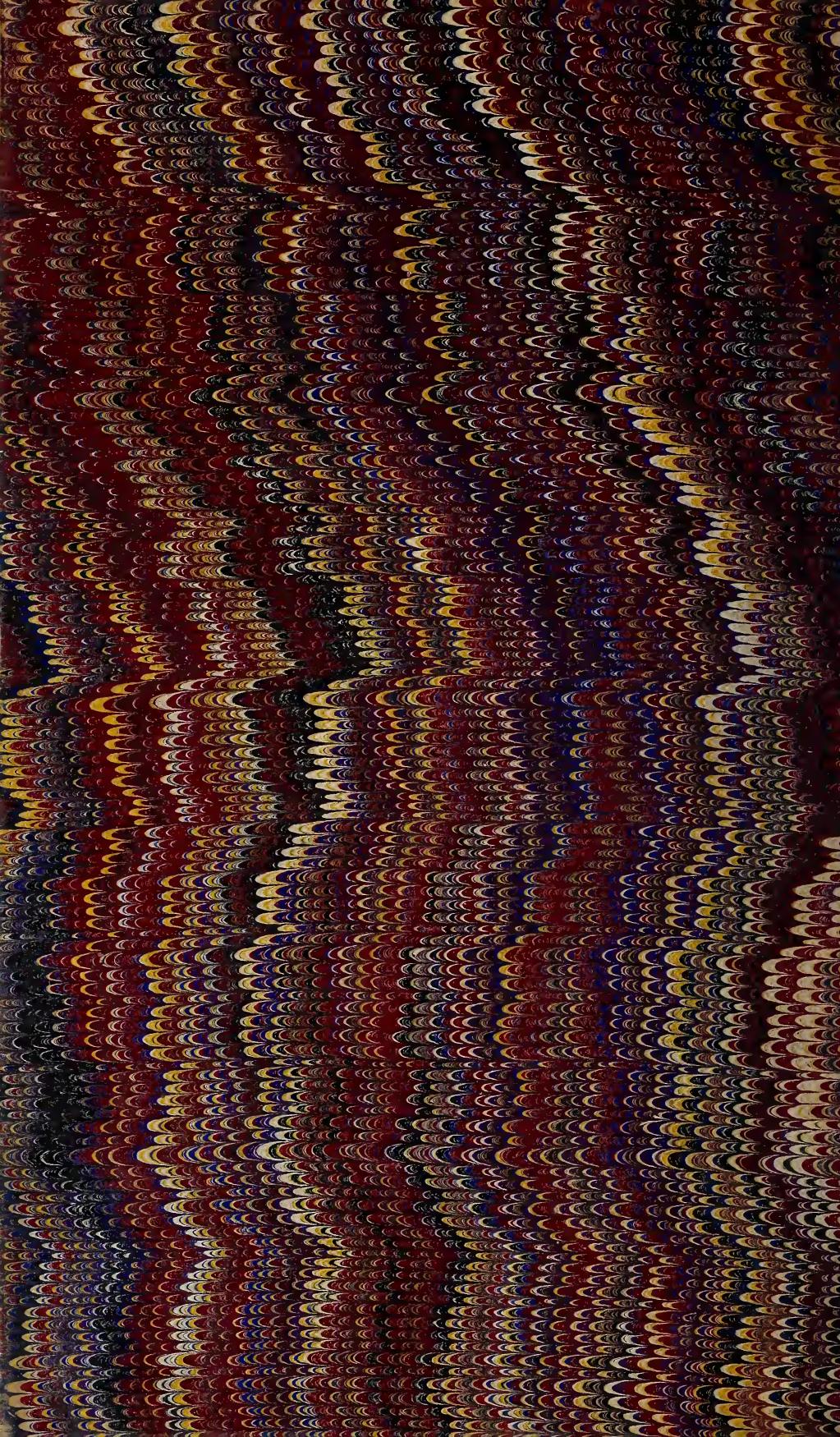
COBLESKILL,

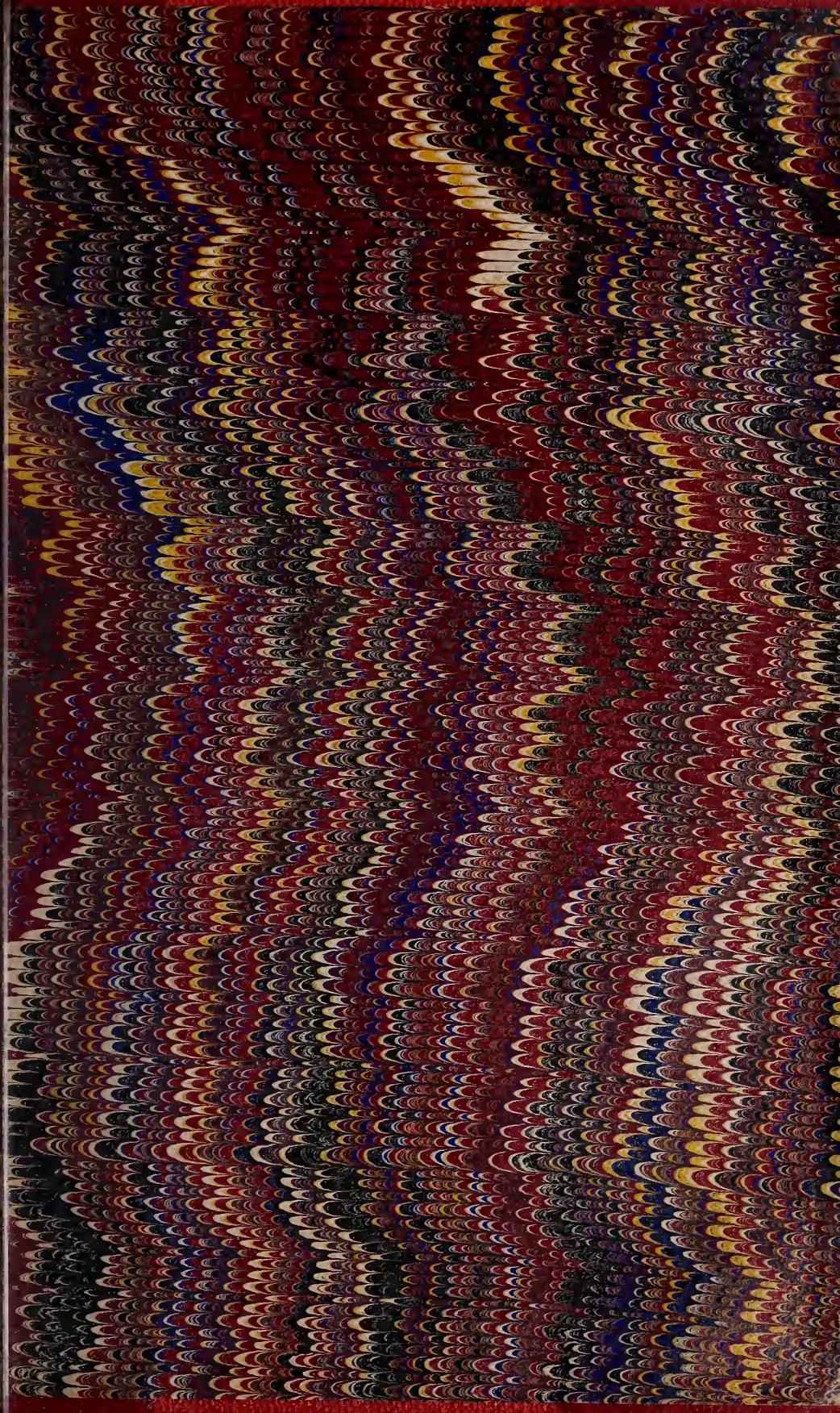
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